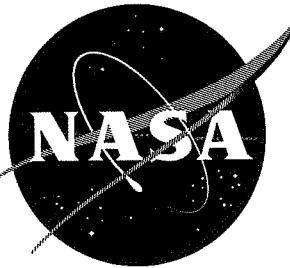


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TECHNICAL MEMORANDUM

X-212

THE CONTROL CHARACTERISTICS OF TWO PRELIMINARY
MODELS OF THE X-15 RESEARCH AIRPLANE
AT MACH NUMBERS OF 2.98 AND 4.01

By Robert W. Dunning

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

TECHNICAL MEMORANDUM X-212

THE CONTROL CHARACTERISTICS OF TWO PRELIMINARY
MODELS OF THE X-15 RESEARCH AIRPLANE

AT MACH NUMBERS OF 2.98 AND 4.01*

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By Robert W. Dunning

SUMMARY

An investigation has been conducted in the Langley high Mach number jet to determine the control characteristics of two preliminary models of the X-15 research airplane. For each model, tests were made at Mach numbers of 2.98 and 4.01 and Reynolds numbers from 2×10^6 to 4×10^6 based on the wing mean aerodynamic chord. Six-component data were obtained through angles of attack from -4° to 22° at angles of sideslip from -5° to 1° . The results indicate that for the final configuration tested the longitudinal control appeared satisfactory over the range of parameters tested. Laterally and directionally the controls are satisfactory if both vertical tails are deflected. If only the upper vertical tail is used, the wing flow field reduces its effectiveness appreciably. Replacing the modified NACA 66-005 section horizontal tail with a 10° total-angle wedge-section horizontal tail resulted in an increase in longitudinal control effectiveness of approximately 30 percent.

INTRODUCTION

A program for the design and construction of a high-speed research airplane for exploration in the hypersonic speed range at high altitudes has been underway for the past several years. This airplane, designated the X-15, has evolved through numerous design studies and wind-tunnel test programs to its present form. Reference 1 presents the static stability results whereas this report presents, with only a minimum analysis, the control characteristics obtained in the Langley high Mach number jet at Mach numbers of about 2.98 and 4.01 for two of the variations in the evolution of the airplane.

SYMBOLS

The results of the tests are presented as standard coefficients of forces and moments. The data are referred to the body axis (fig. 1) with the exception of lift and drag which are referred to the stability axis. The reference center of gravity is at 25 percent of the wing mean aerodynamic chord.

b	wing span	
C_A	axial-force coefficient, $-F_X/qS$	L 6 8
C_D	drag coefficient, $C_N \sin \alpha + C_A \cos \alpha$	9
C_L	lift coefficient, $C_N \cos \alpha - C_A \sin \alpha$	
C_l	rolling-moment coefficient, M_X/qSb	
$C_{l\beta}$	rolling-moment curve slope per degree, $\left(\frac{\partial C_l}{\partial \beta}\right)_{\beta=0}$	
$C_{l\delta_h}$	incremental rolling-moment curve slope due to differentially deflecting the horizontal tail per degree	
C_m	pitching-moment coefficient, $M_Y/qS\bar{c}$	
C_{m_h}	increment of pitching-moment coefficient provided by horizontal tail	
C_N	normal-force coefficient, $-F_Z/qS$	
C_n	yawing-moment coefficient, M_Z/qSb	
$C_{n\beta}$	yawing-moment curve slope per degree, $\left(\frac{\partial C_n}{\partial \beta}\right)_{\beta=0}$	
$C_{n\delta_h}$	incremental yawing-moment curve slope due to differentially deflecting the horizontal tail per degree	
C_Y	side-force coefficient, F_Y/qS	

$C_{Y\beta}$	side-force curve slope per degree, $\left(\frac{\partial C_Y}{\partial \beta}\right)_{\beta=0}$
$\frac{\partial C_m}{\partial C_N}, \frac{\partial C_m}{\partial C_L}$	longitudinal stability parameters
\bar{c}	wing mean aerodynamic chord (based on total wing area including area submerged in fuselage)
L 6 8 9	Mach number
M_X	moment about X-axis
M_Y	moment about Y-axis
M_Z	moment about Z-axis
n_p	neutral point
q	dynamic pressure
S	total wing area including area submerged in fuselage
F_X	force along X-axis
F_Y	force along Y-axis
F_Z	force along Z-axis
X,Y,Z	coordinate axes
α	angle of attack, deg
β	angle of sideslip, deg
ϵ	effective downwash angle
δ_b	drag brake angle to vertical-tail center line, deg
δ_h	horizontal-tail deflection, deg
δ_h'	average horizontal-tail deflection when differentially deflected, $\frac{\delta_{h,L} + \delta_{h,R}}{2}$

δ_v vertical-tail deflection, deg

Subscripts:

B	model base
b	dive brake on vertical tails
h	horizontal tail
L	left horizontal-tail panel
l	lower vertical tail
R	right horizontal-tail panel
u	upper vertical tail
v	vertical tail

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APPARATUS

The tests were conducted in the Langley high Mach number jet. The settling-chamber pressure was held constant by a pressure-regulating valve, and the corresponding air temperature was continuously recorded during each run.

A sting-mounted strain-gage balance which measured normal force, side force, pitching moment, and yawing moment internally and rolling moment and axial force externally was used to obtain the data. A windshield over the external part of the balance extended to the base of the model and eliminated wind tare loads. Base pressures were measured simultaneously with the force measurements. During the tests of configuration 3 a failure occurred in the rolling-moment and axial-force components such that most of the data for this configuration consist only of the four internal components.

MODELS

The geometric characteristics of the configurations are given in table I and figures 2 to 7. Two 0.02-scale configurations (configurations 2 and 3) of the X-15 were tested for control characteristics. Figure 2 illustrates the basic differences of each configuration. Detailed three-view drawings of configurations 2 and 3 are presented,

respectively, in figures 4 and 5. When configuration 2 was altered to become configuration 3, the changes in model geometry consisted of moving the leading edge of the side fairings back along the fuselage, changing the distribution of vertical-tail area above and below the fuselage, and reducing the dive-brake area. It should be noted that two different vertical tails were tested on configuration 3 and two different horizontal tails were tested on configuration 2. Detailed drawings of the vertical tails for all the configurations are shown in figure 6 and the detailed drawings of wings and horizontal tails are shown in figure 7.

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6 Since the X-15 program has been coordinated by North American
8 Aviation, Incorporated, the various models described above have been
9 tested in other research facilities under the North American designa-
tions listed in the appendix.

TESTS

The tests were conducted at Mach numbers of 2.98 and 4.01. The Reynolds number for each configuration is as shown in the following table:

Configuration	Mach number	Temperature range, °F	Settling chamber pressure, lb/sq in. abs	Average Reynolds number based on wing \bar{c}
2	2.98	90 to 60	73.0	2.4×10^6
2	4.01	100 to 80	193.5	3.7
3	2.98	37 to 7	75.0	2.9

The tests were run at humidities below 5×10^{-6} pounds of water vapor per pound of dry air. This value is believed to be low enough to eliminate water-condensation effects. The test-section static temperature and pressure did not reach the point where liquefaction of air would take place.

Three basic configurations with various components were tested. Data were obtained for angles of attack from -4° to 24° and angles of sideslip of -5° to 1° .

PRECISION OF DATA

The probable average uncertainties in the test data due to the accuracy limitations of the balances, recording equipment, and the ability of the system to repeat data points are as follows:

C_A	±0.001	
C_D	±0.001	
C_L	±0.006	L
C_l	±0.0002	6
C_m	±0.002	8
C_N	±0.006	
C_n	±0.0003	
C_Y	±0.001	
α , deg	±0.1	
β , deg	±0.1	

RESULTS

Representative plots of the aerodynamic characteristics of the configurations are presented in figures 8 to 20. Tabulated values are presented in tables II to V. The data are presented with only a minimum analysis in order to expedite publication. The effective downwash angle was obtained by means of the relation

$$\epsilon = \alpha + \delta_h - \frac{C_{m_h}}{\partial C_m / \partial \delta_h}$$

Longitudinal Control Characteristics

Wing.- At small, particularly negative, angles of attack and large negative horizontal-tail deflection, there is a loss in the pitch contribution of the tail. (See fig. 8.) This loss is primarily a result of the tail being deflected up into the wing wake. As the configuration angle of attack increases, this wake passes over the tail and causes no further trouble. This effect increased with increasing Mach number.

Horizontal-tail deflection.- The pitching-moment variation with lift (figs. 9 and 10) is essentially linear and stable at low angles of horizontal-tail deflection δ_h where the airplane will probably be

trimmed. As δ_h increases, the pitching moment becomes nonlinear and at $\delta_h = -45^\circ$ starts to increase with increasing C_L . Little effect due to Mach number or configuration is apparent.

The use of the horizontal tails to produce roll (differential deflection) had no effect on the pitch control characteristics of the configuration. (See fig. 11.)

Dive-brake angle.- Opening the dive brakes seems to have only a small effect on the pitching-moment contribution of the deflected horizontal tail (fig. 12) and this effect is all probably due to the differential drag of the brakes as discussed in references 1 and 2.

Horizontal-tail section.- As suggested in reference 3, a wedge section tail should be superior controlwise to the modified NACA 66-005 section. This is seen to be true in figures 13 and 16 which show values of $\partial C_m / \partial \delta_h$ increased approximately 30 percent (fig. 16 at Mach number 2.98 and somewhat higher at Mach number 4.01).

Upper vertical-tail deflection and sideslip effects.- There was no apparent effect, over the range of these tests, on the pitching-moment characteristics due to deflecting the upper vertical tail (fig. 14) or to sideslipping the model (fig. 15).

Lateral and Directional Control Characteristics

Vertical-tail deflection.- As might be expected, the larger tail area of configuration 3 was more effective than that of configuration 2 and for both configurations the lateral and directional characteristics increased approximately linear with increasing tail deflection. (See figs. 17 and 18.)

Effects of α on the horizontal rolling tail and vertical tail.- In general there is little effect of α on $C_{n\delta_h}$. (See fig. 19.)

On the other hand, $C_l_{\delta_h}$ increases with increasing α and decreases with increasing horizontal-tail deflection. This effect becomes larger at higher Mach numbers. These variations are probably due to a combination of upwash effects (fig. 16) and increasingly nonlinear tail-lift-curve slopes with increasing Mach numbers.

The effect of α on the vertical-tail effectiveness is for the wing flow field (ref. 4) to reduce the upper tail effectiveness and increase the lower tail effectiveness; the combination reduces $C_{n\delta_v}$.

and $C_{l_{\delta_v}}$. Laterally and directionally the controls are satisfactory if both vertical tails are deflected.

CONCLUDING REMARKS

An investigation has been conducted in the Langley high Mach number jet to determine the control characteristics of two preliminary models of the X-15 research airplane. The results indicate that for the final configuration tested the longitudinal control appeared satisfactory over the range of parameters tested. Laterally and directionally the controls are satisfactory if both vertical tails are deflected. If only the upper vertical tail is used, the wing flow field reduces its effectiveness appreciably. Replacing the modified NACA 66-005 section horizontal tail with a 10° total-angle wedge-section horizontal tail resulted in an increase in longitudinal control effectiveness of approximately 30 percent.

Langley Research Center,
National Aeronautics and Space Administration,
Langley Field, Va., September 30, 1959.

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APPENDIX

NORTH AMERICAN DESIGNATIONS FOR CONFIGURATIONS

The various models described in this report have been tested in other research facilities. For the purpose of facilitating comparisons of the configuration identities used herein with the identifications used by North American Aviation, Inc., the following information is pertinent:

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	North American designation
Configuration 1	BWXHVUV _L
Configuration 2a	B ₂ W ₂ X ₃ H ₂ V _{U2} V _L
Configuration 2b	B ₂ W ₂ X ₃ H ₂ V _{U2} V _L
Configuration 3a	B ₂ W ₂ X ₄ H ₃ V _{U5} V _{L7}
Configuration 3b	B ₂ W ₂ X ₄ H ₃ V _{U8} V _{L9}

These letter designations are associated with the airplane components as follows:

B	Body without side fairings
W	Wing
X	Side fairings
H	Horizontal tail
V _U	Upper vertical tail
V _L	Lower vertical tail

For the first configuration, no number subscripts were used, but all further changes in any component were identified by use of a new subscript number. Thus, for example, X₄ is the side fairing after four changes.

REFERENCES

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3. McLellan, Charles H.: A Method for Increasing the Effectiveness of Stabilizing Surfaces at High Supersonic Mach Numbers. NACA RM L54F21, 1954.
4. Ulmann, Edward F., and Ridyard, Herbert W.: Flow-Field Effects on Static Stability and Control at High Supersonic Mach Numbers. NACA RM L55L19a, 1956.

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TABLE I

GEOMETRIC CHARACTERISTICS OF X-15 CONFIGURATIONS

Wing:

Area (including area submerged in fuselage), sq in.	11.52
Span, in.	5.366
Mean aerodynamic chord, in.	2.465
Equivalent tip chord, in.	0.716
Fuselage mold line with side fairings	2.639

Airfoil section:

Configuration 1	Modified NACA 66-005
Leading-edge radius:	
At root	0.004
At tip	0.001
Configurations 2a, 2b, 3a, and 3b	Modified NACA 66-005
Leading-edge radius:	
At root	0.014
At tip	0.008
Taper ratio	0.20
Aspect ratio	2.5
Sweep of leading edge, deg	36.75
Sweep of quarter-chord line, deg	25.64
Inclination at fuselage center line, deg	0
Dihedral, deg	0
Geometric twist, deg	0

Horizontal tail:

Area (including area submerged in fuselage), sq in.	6.643
Span, in.:	
Configuration 1	4.090
Configurations 2a, 2b, 3a, and 3b	4.339
Mean aerodynamic chord	1.69
Fairing mold line	1.658
Equivalent tip chord	0.506
Airfoil section:	
Configuration 1	Modified NACA 66-005
Leading-edge radius:	
At root	0.003
At tip	0.001
Configurations 2a, 3a, and 3b	Modified NACA 66-005
Leading-edge radius:	
At root	0.010
At tip	0.005
Configuration 2b	10° wedge
Leading-edge radius:	
At root	0.010
At tip	0.005
Taper ratio	0.206
Aspect ratio	3.038
Sweep of leading edge, deg	50.58
Sweep of quarter-chord line, deg	45.00
Dihedral, deg	-15.00

Vertical tail (upper):

Area (exposed), sq in.:	
Configuration 1	2.175
Configurations 2a and 2b	2.154
Configuration 3a	2.342
Configuration 3b	1.777

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TABLE I.- Concluded

GEOMETRIC CHARACTERISTICS OF X-15 CONFIGURATIONS

Span (exposed), in.:		
Configuration 1	1.654	
Configurations 2a and 2b	1.654	
Configuration 3a	1.10	
Configuration 3b	1.11	
Taper ratio (exposed):		
Configuration 1	0.288	
Configurations 2a and 2b	0.273	
Configuration 3a	0.738	
Configuration 3b	0.435	
Aspect ratio (exposed):		
Configuration 1	1.256	
Configurations 2a and 2b	1.269	
Configuration 3a	0.517	
Configuration 3b	0.694	
Sweep of leading edge, deg.:		
Configuration 1	32.67	
Configurations 2a and 2b	32.67	
Configuration 3a	30.20	
Configuration 3b	46.33	
Airfoil section:		
Configuration 1	10° double wedge (modified)	
Configurations 2a and 2b	10° wedge	
Configuration 3a	10° wedge	
Configuration 3b	10° wedge	
Vertical tail (lower):		
Area (exposed), sq in.:		
Configuration 1	0.778	
Configurations 2a and 2b	0.778	
Configuration 3a	1.920	
Configuration 3b	1.185	
Taper ratio (exposed):		
Configuration 1	0.613	
Configurations 2a and 2b	0.613	
Configuration 3a	0.781	
Configuration 3b	0.811	
Aspect ratio (exposed):		
Configuration 1	0.296	
Configurations 2a and 2b	0.296	
Configuration 3a	0.403	
Configuration 3b	0.274	
Airfoil section:		
Configuration 1	14° double wedge (modified)	
Configurations 2a and 2b	14° double wedge (modified)	
Configuration 3a	10° wedge	
Configuration 3b	10° wedge	
Fuselage:		
Length, in.	11.76	
Maximum diameter (without fairings), in.:		
Configuration 1	1.06	
Configurations 2a, 2b, 3a, and 3b	1.12	
Fineness ratio (without fairings):		
Configuration 1	11.08	
Configurations 2a, 2b, 3a, and 3b	10.5	
Configurations 2a, 2b, 3a, and 3b	10.5	
Distance from nose to moment reference (0.25c), in.:		
Configuration 1	6.866	
Configurations 2a, 2b, 3a, and 3b	6.856	

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TABLE II

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	5.0	7.5	0	0	.0	.0	2.98	-5.0	-4	-159	.0555	-162	.0443	.019	.0920	-0.0168	.0043
	5.0	7.5	0	0	.0	.0	2.98	-5.0	-2	-1076	.0488	-178	.0461	.007	.0935	-0.0154	.0051
	5.0	7.5	0	0	.0	.0	2.98	-5.0	0	-1003	.0469	-103	.0469	-.006	.0891	-0.0134	.0055
	5.0	7.5	0	0	.0	.0	2.98	-5.0	2	-1072	.0506	.074	.0481	-.026	.0894	-0.0114	.0056
	5.0	7.5	0	0	.0	.0	2.98	-5.0	4	-151	.0586	155	.0479	-.042	.0904	-.0095	.0058
	5.0	7.5	0	0	.0	.0	2.98	-5.0	8	-157	.0587	157	.0473	-.072	.0905	-.0055	.0070
	5.0	7.5	0	0	.0	.0	2.98	-5.0	12	-192	.1543	.513	.0463	-.016	.0936	-.0016	.0029
	5.0	7.5	0	0	.0	.0	2.98	-5.0	16	-163	.2400	.703	.0478	-.134	.0901	-.0002	.0111
	5.0	7.5	0	0	.0	.0	2.98	-5.0	20	-849	.3558	.919	.0439	-.177	.0928	-.0023	.0124
	5.0	7.5	0	0	.0	.0	2.98	-3.0	-4	-152	.0515	-155	.0408	-.013	.0555	-.0106	.0027
	5.0	7.5	0	0	.0	.0	2.98	-3.0	-2	-1070	.0456	-172	.0431	-.002	.0543	-.0098	.0031
	5.0	7.5	0	0	.0	.0	2.98	-3.0	0	-1007	.0450	-107	.0450	-.010	.0528	-.0082	.0033
	5.0	7.5	0	0	.0	.0	2.98	-3.0	2	-1089	.0489	.091	.0458	-.029	.0525	-.0067	.0036
	5.0	7.5	0	0	.0	.0	2.98	-3.0	4	-166	.0579	.171	.0461	-.046	.0516	-.0049	.0038
	5.0	7.5	0	0	.0	.0	2.98	-3.0	8	-336	.0940	.346	.0463	-.080	.0509	-.0024	.0044
	5.0	7.5	0	0	.0	.0	2.98	-3.0	12	-500	.1556	.522	.0481	-.110	.0525	-.0000	.0055
	5.0	7.5	0	0	.0	.0	2.98	-3.0	16	-673	.2429	.714	.0479	-.139	.0481	-.0025	.0064
	5.0	7.5	0	0	.0	.0	2.98	-3.0	20	-857	.3585	.928	.0435	-.178	.0498	-.0029	.0076
	5.0	7.5	0	0	.0	.0	2.98	-3.0	-4	-1073	.0495	-155	.0381	-.003	.0030	-.0005	.0005
	5.0	7.5	0	0	.0	.0	2.98	-3.0	-2	-1073	.0495	-155	.0381	-.003	.0030	-.0004	.0005
	5.0	7.5	0	0	.0	.0	2.98	-3.0	0	-1003	.0448	.003	.0448	-.019	.0027	-.0004	.0002
	5.0	7.5	0	0	.0	.0	2.98	-3.0	2	-1082	.0542	.084	.0465	-.030	.0018	-.0000	.0004
	5.0	7.5	0	0	.0	.0	2.98	-3.0	4	-164	.0583	.168	.0467	-.048	.0019	-.0002	.0003
	5.0	7.5	0	0	.0	.0	2.98	-3.0	8	-332	.0952	.342	.0480	-.082	.0018	-.0002	.0004
	5.0	7.5	0	0	.0	.0	2.98	-3.0	12	-506	.1568	.527	.0482	-.112	.0011	-.0004	.0005
	5.0	7.5	0	0	.0	.0	2.98	-3.0	16	-676	.2430	.717	.0472	-.141	.0001	-.0007	.0001
	5.0	7.5	0	0	.0	.0	2.98	-3.0	20	-857	.3585	.928	.0435	-.178	.0498	-.0029	.0076
	5.0	7.5	0	0	.0	.0	2.98	-3.0	-4	-1073	.0495	-155	.0381	-.003	.0030	-.0005	.0005
	5.0	7.5	0	0	.0	.0	2.98	-3.0	-2	-1073	.0495	-155	.0381	-.003	.0030	-.0004	.0005
	5.0	7.5	0	0	.0	.0	2.98	-3.0	0	-1003	.0448	.003	.0448	-.019	.0027	-.0004	.0002
	5.0	7.5	0	0	.0	.0	2.98	-3.0	2	-1082	.0542	.084	.0465	-.030	.0018	-.0000	.0004
	5.0	7.5	0	0	.0	.0	2.98	-3.0	4	-164	.0583	.168	.0467	-.048	.0019	-.0002	.0003
	5.0	7.5	0	0	.0	.0	2.98	-3.0	8	-332	.0952	.342	.0480	-.082	.0018	-.0002	.0004
	5.0	7.5	0	0	.0	.0	2.98	-3.0	12	-506	.1568	.527	.0482	-.112	.0011	-.0004	.0005
	5.0	7.5	0	0	.0	.0	2.98	-3.0	16	-676	.2430	.717	.0472	-.141	.0001	-.0007	.0001
	5.0	7.5	0	0	.0	.0	2.98	-3.0	20	-857	.3585	.928	.0435	-.178	.0498	-.0029	.0076
	5.0	7.5	0	0	.0	.0	2.98	-1.0	-4	-146	.0482	-149	.0379	-.013	-.0114	-.0027	-.0012
	5.0	7.5	0	0	.0	.0	2.98	-1.0	-2	-1068	.0444	-169	.0420	-.001	-.0123	-.0026	-.0012
	5.0	7.5	0	0	.0	.0	2.98	-1.0	0	-1010	.0439	.10	.0439	-.014	-.0115	-.0014	-.0012
	5.0	7.5	0	0	.0	.0	2.98	-1.0	2	-1088	.0481	.090	.0450	-.031	-.0115	-.0014	-.0012
	5.0	7.5	0	0	.0	.0	2.98	-1.0	4	-171	.0581	.174	.0461	-.051	-.0114	-.0008	-.0014
	5.0	7.5	0	0	.0	.0	2.98	-1.0	6	-359	.0953	.349	.0472	-.086	-.0121	-.0000	-.0015
	5.0	7.5	0	0	.0	.0	2.98	-1.0	12	-501	.1511	.502	.0481	-.102	-.0112	-.0007	-.0020
	5.0	7.5	0	0	.0	.0	2.98	-1.0	16	-683	.2456	.724	.0478	-.143	-.0109	-.0015	-.0023
	5.0	7.5	0	0	.0	.0	2.98	-1.0	20	-857	.3611	.929	.0461	-.174	-.0165	-.0011	-.0030
	5.0	7.5	0	0	.0	.0	4.01	-5.0	-4	-138	.0501	-142	.0403	-.000	.0792	-.0066	.0018
	5.0	7.5	0	0	.0	.0	4.01	-5.0	-2	-1070	.0436	-171	.0412	-.002	.0802	-.0059	.0026
	5.0	7.5	0	0	.0	.0	4.01	-5.0	0	-1000	.0425	-100	.0425	-.012	.0815	-.0057	.0033
	5.0	7.5	0	0	.0	.0	4.01	-5.0	2	-1071	.0450	.072	.0425	-.022	.0832	-.0054	.0039
	5.0	7.5	0	0	.0	.0	4.01	-5.0	4	-144	.0525	.148	.0423	-.032	.0849	-.0049	.0048
	5.0	7.5	0	0	.0	.0	4.01	-5.0	8	-280	.0832	.289	.0434	-.051	.0865	-.0032	.0071
	5.0	7.5	0	0	.0	.0	4.01	-5.0	12	-429	.1391	.449	.0468	-.074	.0886	-.0012	.0085
	5.0	7.5	0	0	.0	.0	4.01	-5.0	16	-590	.2197	.628	.0483	-.108	.0897	-.0010	.0096
	5.0	7.5	0	0	.0	.0	4.01	-5.0	20	-774	.3372	.842	.0500	-.153	.0982	-.0019	.0099
	5.0	7.5	0	0	.0	.0	4.01	-5.0	-4	-118	.0424	-120	.0361	-.001	-.0024	-.0008	-.0004
	5.0	7.5	0	0	.0	.0	4.01	-5.0	-2	-1058	.0399	-.059	.0379	-.007	-.0047	-.0015	-.0012
	5.0	7.5	0	0	.0	.0	4.01	-5.0	0	-1007	.0387	.007	.0387	-.013	-.0047	-.0015	-.0015
	5.0	7.5	0	0	.0	.0	4.01	-5.0	2	-1070	.0415	.071	.0391	-.024	.0460	-.0033	.0021
	5.0	7.5	0	0	.0	.0	4.01	-5.0	4	-136	.0495	.139	.0399	-.036	.0474	-.0033	.0027
	5.0	7.5	0	0	.0	.0	4.01	-5.0	8	-280	.0816	.288	.0418	-.055	.0502	-.0021	.0043
	5.0	7.5	0	0	.0	.0	4.01	-3.0	-12	-429	.1368	.448	.0445	-.077	.0497	-.0001	.0046
	5.0	7.5	0	0	.0	.0	4.01	-3.0	-16	-614	.2273	.637	.0486	-.112	.0513	-.0016	.0049
	5.0	7.5	0	0	.0	.0	4.01	-3.0	-20	-800	.3454	.870	.0500	-.161	.0542	-.0015	.0052
	5.0	7.5	0	0	.0	.0	4.01	1.0	-4	-113	.0423	-.116	.0343	-.002	-.0139	-.0006	-.0010
	5.0	7.5	0	0	.0	.0	4.01	1.0	-2	-1049	.0398	-.069	.0374	-.007	-.0022	-.0015	-.0007
	5.0	7.5	0	0	.0	.0	4.01	1.0	0	-1015	.0395	-.065	.0367	-.026	-.0021	-.0013	-.0007
	5.0	7.5	0	0	.0	.0	4.01	1.0	2	-1077	.0420	.079	.0393	-.023	-.0024	-.0006	-.0009
	5.0	7.5	0	0	.0	.0	4.01	1.0	4	-148	.0501	.151	.0396	-.033	-.0159	-.0015	-.0017
	5.0	7.5	0	0	.0	.0	4.01	1.0	8	-290	.0831	.299	.0419	-.053	-.0165	-.0009	-.0025
	5.0	7.5	0	0	.0	.0	4.01	1.0	12	-449	.1426	.469	.0461	-.078	-.0168	-.0015	-.0030
	5.0	7.5	0	0	.0	.0	4.01	1.0	16	-615	.2276	.624	.0492	-.112	-.0170	-.0006	-.0035
	5.0	7.5	0	0	.0	.0	4.01	1.0	20	-805	.3472	.875	.0509	-.164	-.0146	-.0022	-.0038

TABLE II. - Continued

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,U}$, deg	$\delta_{b,L}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	5.0	7.5	0	0	-3.0	0	2.98	-5.0	-4	-159	.0568	-.162	.0456	.015	.0721	-.0045	.0000
	5.0	7.5	0	0	-3.0	0	2.98	-5.0	-2	-.079	.0494	-.081	.0466	-.004	.0714	-.0037	.0009
	5.0	7.5	0	0	-3.0	0	2.98	-5.0	0	-.003	.0469	-.003	.0469	-.009	.0713	-.0025	.0014
	5.0	7.5	0	0	-3.0	0	2.98	-5.0	2	.073	.0504	.074	.0479	.025	.0719	-.0010	.0016
	5.0	7.5	0	0	-3.0	0	2.98	-5.0	4	.155	.0598	.159	.0488	-.042	.0747	.0002	.0021
	5.0	7.5	0	0	-3.0	0	2.98	-5.0	8	.323	.0942	.333	.0482	.076	.0779	.0026	.0039
	5.0	7.5	0	0	-3.0	0	2.98	-5.0	12	.487	.1546	.508	.0499	-.106	.0790	.0043	.0062
	5.0	7.5	0	0	-3.0	0	2.98	-5.0	16	.663	.2430	.705	.0507	-.140	.0823	.0052	.0090
	5.0	7.5	0	0	-3.0	0	2.98	-5.0	20	.845	.3569	.916	.0464	-.181	.0880	.0050	.0111
	5.0	7.5	0	0	-3.0	0	2.98	-3.0	-4	-.156	.0552	-.160	.0442	.014	.0350	.0016	-.0017
	5.0	7.5	0	0	-3.0	0	2.98	-3.0	-2	-.074	.0495	-.076	.0469	.003	.0351	.0017	-.0012
	5.0	7.5	0	0	-3.0	0	2.98	-3.0	0	.005	.0483	.005	.0483	-.012	.0347	.0027	-.0009
	5.0	7.5	0	0	-3.0	0	2.98	-3.0	2	.084	.0519	.085	.0490	-.030	.0354	.0037	-.0004
	5.0	7.5	0	0	-3.0	0	2.98	-3.0	4	.159	.0604	.162	.0492	-.017	.0359	.0039	-.0011
	5.0	7.5	0	0	-3.0	0	2.98	-3.0	8	.238	.0654	.237	.0496	-.079	.0381	.0059	-.0039
	5.0	7.5	0	0	-3.0	0	2.98	-3.0	12	.498	.1571	.520	.0501	-.109	.0380	.0073	.0023
	5.0	7.5	0	0	-3.0	0	2.98	-3.0	16	.667	.2418	.707	.0485	-.140	.0384	.0077	.0040
	5.0	7.5	0	0	-3.0	0	2.98	-3.0	20	.851	.3571	.921	.0445	-.178	.0440	.0061	.0063
	5.0	7.5	0	0	-3.0	0	2.98	0	-6	-.146	.0513	-.149	.0410	.012	-.0154	.0115	-.0045
	5.0	7.5	0	0	-3.0	0	2.98	0	-2	-.058	.0459	-.069	.0435	.001	-.0153	.0108	-.0042
	5.0	7.5	0	0	-3.0	0	2.98	0	0	.010	.0460	.010	.0460	-.013	-.0147	.0104	-.0041
	5.0	7.5	0	0	-3.0	0	2.98	0	2	.088	.0503	.090	.0472	-.031	-.0140	.0100	-.0040
	5.0	7.5	0	0	-3.0	0	2.98	0	4	.170	.0604	.173	.0484	-.050	-.0134	.0096	-.0038
	5.0	7.5	0	0	-3.0	0	2.98	0	8	.338	.0978	.348	.0497	-.084	-.0136	.0087	-.0037
	5.0	7.5	0	0	-3.0	0	2.98	0	12	.497	.1574	.519	.0506	-.110	-.0112	.0072	-.0033
	5.0	7.5	0	0	-3.0	0	2.98	0	16	.681	.2482	.723	.0508	-.142	-.0088	.0059	-.0026
	5.0	7.5	0	0	-3.0	0	2.98	0	20	.857	.3660	.931	.0506	-.179	-.0057	.0033	-.0019
	5.0	7.5	0	0	-3.0	0	4.01	-5.0	-4	-.141	.0453	-.144	.0354	.002	.0642	.0034	-.0016
	5.0	7.5	0	0	-3.0	0	4.01	-5.0	0	-.074	.0397	-.075	.0371	-.003	.0678	.0030	-.0001
	5.0	7.5	0	0	-3.0	0	4.01	-5.0	2	-.018	.0378	-.018	.0378	-.011	.0693	.0028	-.0005
	5.0	7.5	0	0	-3.0	0	4.01	-5.0	4	.043	.0404	.044	.0389	-.022	.0717	.0026	.0012
	5.0	7.5	0	0	-3.0	0	4.01	-5.0	8	.111	.0467	.124	.0388	-.033	.0752	.0024	-.0022
	5.0	7.5	0	0	-3.0	0	4.01	-5.0	12	.242	.0749	.250	.0405	-.052	.0796	.0029	.0048
	5.0	7.5	0	0	-3.0	0	4.01	-5.0	16	.548	.2047	.583	.0456	-.101	.0892	.0039	.0083
	5.0	7.5	0	0	-3.0	0	4.01	-5.0	20	.739	.3197	.803	.0476	-.147	.0984	.0038	-.0097
	5.0	7.5	0	0	-3.0	0	4.01	-3.0	-4	-.121	.0468	-.124	.0382	.006	.0323	.0059	-.0026
	5.0	7.5	0	0	-3.0	0	4.01	-3.0	-2	-.050	.0418	-.051	.0401	-.000	.0337	.0050	-.0016
	5.0	7.5	0	0	-3.0	0	4.01	-3.0	0	.010	.0398	.010	.0398	-.007	.0345	.0047	-.0011
	5.0	7.5	0	0	-3.0	0	4.01	-3.0	2	.073	.0432	.074	.0406	-.017	.0373	.0041	-.0003
	5.0	7.5	0	0	-3.0	0	4.01	-3.0	4	.138	.0505	.14	.0407	-.028	.0396	.0039	.0001
	5.0	7.5	0	0	-3.0	0	4.01	-3.0	8	.212	.0611	.280	.0426	-.046	.0440	.0043	.0119
	5.0	7.5	0	0	-3.0	0	4.01	-3.0	12	.421	.1584	.480	.0446	-.067	.0457	.0031	.0031
	5.0	7.5	0	0	-3.0	0	4.01	-3.0	16	.574	.2143	.611	.0411	-.077	.0478	.0051	.0001
	5.0	7.5	0	0	-3.0	0	4.01	-3.0	20	.750	.3254	.816	.0491	-.145	.0562	.0036	.0052
	5.0	7.5	0	0	-3.0	0	4.01	-3.0	-4	-.135	.0444	-.138	.0349	.002	-.0134	.0098	-.0035
	5.0	7.5	0	0	-3.0	0	4.01	-3.0	-2	-.070	.0411	-.072	.0386	-.003	-.0124	.0097	-.0033
	5.0	7.5	0	0	-3.0	0	4.01	-3.0	0	-.006	.0399	-.006	.0399	-.012	-.0109	.0097	-.0032
	5.0	7.5	0	0	-3.0	0	4.01	-3.0	2	.058	.0431	.060	.0410	-.022	-.0104	.0091	-.0033
	5.0	7.5	0	0	-3.0	0	4.01	-3.0	4	.126	.0497	.129	.0408	-.032	-.0112	.0083	-.0033
	5.0	7.5	0	0	-3.0	0	4.01	-3.0	8	.263	.0800	.271	.0426	-.048	-.0110	.0070	-.0033
	5.0	7.5	0	0	-3.0	0	4.01	-3.0	12	.418	.1359	.437	.0460	-.07	-.0094	.0064	-.0029
	5.0	7.5	0	0	-3.0	0	4.01	-3.0	20	.761	.3307	.828	.0504	-.152	-.0007	.0029	-.0023
	5.0	7.5	0	0	-6.0	0	2.98	-5.0	-4	-.165	.0450	-.168	.0444	.014	.0538	.0065	-.0037
	5.0	7.5	0	0	-6.0	0	2.98	-5.0	0	-.095	.0480	-.097	.0450	.003	.0522	.0062	-.0025
	5.0	7.5	0	0	-6.0	0	2.98	-5.0	2	-.006	.0457	-.009	.0457	-.010	.0557	.0073	-.0019
	5.0	7.5	0	0	-6.0	0	2.98	-5.0	4	.149	.0585	.152	.0480	-.046	.0597	.0093	-.0011
	5.0	7.5	0	0	-6.0	0	2.98	-5.0	8	.309	.0912	.319	.0472	-.079	.0636	.0105	-.0010
	5.0	7.5	0	0	-6.0	0	2.98	-5.0	12	.481	.1524	.502	.0491	-.107	.0686	.0111	-.0040
	5.0	7.5	0	0	-6.0	0	2.98	-5.0	16	.651	.2392	.692	.0503	-.140	.0732	.0102	-.0069
	5.0	7.5	0	0	-6.0	0	2.98	-5.0	20	.843	.3506	.912	.0410	-.180	.0825	.0085	-.0099
	5.0	7.5	0	0	-6.0	0	2.98	-3.0	-4	-.159	.0554	-.163	.0442	.013	.0173	.0123	-.0056
	5.0	7.5	0	0	-6.0	0	2.98	-3.0	-2	-.077	.0497	-.079	.0470	.005	.0181	.0121	-.0047
	5.0	7.5	0	0	-6.0	0	2.98	-3.0	0	.001	.0479	.001	.0479	-.010	.0192	.0123	-.0041
	5.0	7.5	0	0	-6.0	0	2.98	-3.0	2	.084	.0511	.086	.0482	-.028	.0199	.0129	-.0038
	5.0	7.5	0	0	-6.0	0	2.98	-3.0	4	.162	.0598	.166	.0484	-.047	.0241	.0129	-.0031
	5.0	7.5	0	0	-6.0	0	2.98	-3.0	8	.330	.0961	.341	.0491	-.080	.0249	.0140	-.0019
	5.0	7.5	0	0	-6.0	0	2.98	-3.0	12	.504	.1342	.525	.0493	-.107	.0268	.0100	-.0020
	5.0	7.5	0	0	-6.0	0	2.98	-3.0	16	.674	.2427	.677	.0488	-.140	.0522	.0127	-.0022
	5.0	7.5	0	0	-6.0	0	2.98	-3.0	20	.854	.3568	.925	.0489	-.176	.0399	.0088	-.0053
	5.0	7.5	0	0	-6.0	0	2.98	-3.0	-4	-.149	.0525	-.153	.0420	.015	-.0343	.0222	-.0083
	5.0	7.5	0	0	-6.0	0	2.98	-3.0	-2	-.067	.0469	-.069	.0445	.003	-.0336	.0213	-.0078
	5.0	7.5	0	0	-6.0	0	2.98	-3.0	0	.010	.0469	.010	.0469	-.010	-.0319	.0204	-.0075
	5.0	7.5	0	0	-6.0	0	2.98	-3.0	2	.092	.0524	.093	.0492	-.028	-.0314	.0197	-.0075
	5.0	7.5	0	0	-6.0	0	2.98	-3.0	4	.170	.0617	.174	.0496	-.045	-.0303	.0189	-.0072
	5.0	7.5	0	0	-6.0	0	2.98	-3.0	8	.341	.0993	.352	.0508	-.083	-.0279	.0169	-.0068
	5.0	7.5	0	0	-6.0	0	2.98	-3.0	12	.513	.1613	.536	.0510	-.110	-.0240	.0145	-.0061

TABLE II.- Continued

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	5.0	7.5	0	0	-6.0	.0	4.01	-5.0	-4	.135	.0473	-.138	.0377	.003	.0508	.0123	-.0051
	5.0	7.5	0	0	-6.0	.0	4.01	-5.0	-2	-.070	.0412	-.072	.0384	-.003	.0513	.0116	-.0034
	5.0	7.5	0	0	-6.0	.0	4.01	-5.0	0	-.009	.0370	-.009	.0394	-.0010	.0510	.0114	-.0032
	5.0	7.5	0	0	-6.0	.0	4.01	-5.0	4	.120	.0483	.123	.0396	-.019	.0602	.0097	.0013
	5.0	7.5	0	0	-6.0	.0	4.01	-5.0	8	.254	.0772	.262	.0411	-.049	.0644	.0088	-.0003
	5.0	7.5	0	0	-6.0	.0	4.01	-5.0	12	.400	.1304	.419	.0442	-.070	.0757	.0079	.0048
	5.0	7.5	0	0	-6.0	.0	4.01	-5.0	16	.558	.2073	.594	.0452	-.099	.0848	.0065	.0070
	5.0	7.5	0	0	-6.0	.0	4.01	-5.0	20	.734	.3177	.798	.0474	-.140	.1008	.0041	.0092
	5.0	7.5	0	0	-6.0	.0	4.01	-3.0	-4	-.121	.0463	-.124	.0377	-.002	.0170	.0148	-.0058
	5.0	7.5	0	0	-6.0	.0	4.01	-3.0	-2	-.063	.0413	-.064	.0391	-.000	.0194	.0132	-.0047
	5.0	7.5	0	0	-6.0	.0	4.01	-3.0	0	.011	.0407	-.011	.0407	-.013	.0231	.0119	-.0038
	5.0	7.5	0	0	-6.0	.0	4.01	-3.0	2	.049	.0428	-.050	.0411	-.021	.0252	.0110	-.0030
	5.0	7.5	0	0	-6.0	.0	4.01	-3.0	4	.117	.0493	.120	.0410	-.033	.0284	.0105	-.0024
	5.0	7.5	0	0	-6.0	.0	4.01	-3.0	8	.257	.0794	.266	.0427	-.051	.0332	.0102	-.0002
	5.0	7.5	0	0	-6.0	.0	4.01	-3.0	12	.406	.1330	.425	.0456	-.072	.0383	.0092	.0008
	5.0	7.5	0	0	-6.0	.0	4.01	-3.0	16	.567	.2123	.604	.0477	-.103	.0443	.0080	.0026
	5.0	7.5	0	0	-6.0	.0	4.01	-3.0	20	.746	.3227	.813	.0483	-.145	.0525	.004	.0044
	5.0	7.5	0	0	-6.0	.0	4.01	-3.0	4	.151	.0448	-.171	.0410	-.000	.0190	.0169	-.0070
	5.0	7.5	0	0	-6.0	.0	4.01	-3.0	-2	-.049	.0427	-.050	.0410	-.000	.0256	.0181	-.0065
	5.0	7.5	0	0	-6.0	.0	4.01	0	0	.012	.0420	-.012	.0420	-.007	.0252	.0177	-.0062
	5.0	7.5	0	0	-6.0	.0	4.01	0	2	.073	.0455	-.075	.0429	-.016	.0242	.0167	-.0063
	5.0	7.5	0	0	-6.0	.0	4.01	0	4	.141	.0527	.144	.0427	-.026	.0236	.0157	-.0062
	5.0	7.5	0	0	-6.0	.0	4.01	0	8	.277	.0843	.286	.0448	-.044	.0226	.0136	-.0059
	5.0	7.5	0	0	-6.0	.0	4.01	0	12	.433	.1403	.452	.0472	-.067	.0219	.0123	-.0051
	5.0	7.5	0	0	-6.0	.0	4.01	0	16	.592	.2216	.630	.0498	-.102	.0118	.0090	-.0041
	5.0	7.5	0	0	-6.0	.0	4.01	0	20	.770	.3335	.837	.0500	-.152	.0043	.0049	-.0029
	5.0	7.5	-10	-10	0	0	2.98	.0	-4	-.190	.0613	-.194	.0479	.079	.0041	-.001	-.0008
	5.0	7.5	-10	-10	0	0	2.98	.0	-2	-.115	.0561	-.117	.0521	.075	.0036	-.0007	-.0008
	5.0	7.5	-10	-10	0	0	2.98	.0	0	-.040	.0523	-.060	.0523	.071	.0027	-.0003	-.0005
	5.0	7.5	-10	-10	0	0	2.98	.0	2	.040	.0525	.143	.0517	.063	.0252	-.0000	-.0007
	5.0	7.5	-10	-10	0	0	2.98	.0	4	.100	.0779	.124	.0494	.023	.0030	-.0000	-.0006
	5.0	7.5	-10	-10	0	0	2.98	.0	8	.289	.0870	.299	.0459	.010	.0003	-.0002	-.0008
	5.0	7.5	-10	-10	0	0	2.98	.0	12	.455	.1423	.475	.0465	-.031	.0010	-.0004	-.0009
	5.0	7.5	-10	-10	0	0	2.98	.0	16	.619	.2219	.656	.0427	-.067	.0008	-.0004	-.0010
	5.0	7.5	-10	-10	0	0	2.98	.0	20	.797	.3337	.863	.0410	-.070	.0017	-.0009	-.0007
	5.0	7.5	-10	-10	0	0	4.01	.0	-2	-.097	.0503	-.099	.0469	.050	-.0003	.0014	-.0001
	5.0	7.5	-10	-10	0	0	4.01	.0	0	-.030	.0455	-.030	.0455	.043	.0002	.0019	.0000
	5.0	7.5	-10	-10	0	0	4.01	.0	2	.034	.0457	.036	.0445	.030	-.0002	.0015	-.0006
	5.0	7.5	-10	-10	0	0	4.01	.0	4	.102	.0499	.105	.0426	.019	-.0001	.0013	-.0008
	5.0	7.5	-10	-10	0	0	4.01	.0	8	.237	.0764	.245	.0427	.009	-.0008	.0000	-.0009
	5.0	7.5	-10	-10	0	0	4.01	.0	12	.380	.1267	.398	.0448	.004	-.0007	.0006	-.0011
	5.0	7.5	-10	-10	0	0	4.01	.0	16	.538	.2026	.573	.0465	-.011	-.0000	.0011	-.0014
	5.0	7.5	-10	-10	0	0	4.01	.0	20	.712	.3095	.775	.0471	-.040	.0013	.0006	-.0016
	5.0	7.5	-20	-20	0	0	2.98	.0	-4	-.230	.0899	-.236	.0736	.143	.0041	-.0013	-.0008
	5.0	7.5	-20	-20	0	0	2.98	.0	-2	-.161	.0823	-.163	.0766	.140	.0036	-.0011	-.0008
	5.0	7.5	-20	-20	0	0	2.98	.0	0	-.090	.0760	-.090	.0760	.132	.0026	-.0007	-.0006
	5.0	7.5	-20	-20	0	0	2.98	.0	2	.012	.0739	-.010	.0743	.115	.0017	-.0005	-.0006
	5.0	7.5	-20	-20	0	0	2.98	.0	4	.068	.0750	.073	.0700	.095	.0017	-.0002	-.0005
	5.0	7.5	-20	-20	0	0	2.98	.0	8	.233	.0962	.244	.0628	.061	.0007	-.0000	-.0005
	5.0	7.5	-20	-20	0	0	2.98	.0	12	.403	.1455	.425	.0583	.042	.0010	-.0001	-.0006
	5.0	7.5	-20	-20	0	0	2.98	.0	16	.559	.2210	.598	.0583	.038	.0006	-.0003	-.0007
	5.0	7.5	-20	-20	0	0	2.98	.0	20	.719	.3229	.786	.0572	.029	.0008	-.0005	-.0006
	5.0	7.5	-20	-20	0	0	4.01	.0	-4	-.187	.0768	-.192	.0635	.099	.0026	.0004	.0001
	5.0	7.5	-20	-20	0	0	4.01	.0	-2	-.127	.0711	-.129	.0667	.100	.0025	.0009	.0000
	5.0	7.5	-20	-20	0	0	4.01	.0	0	-.063	.0666	-.063	.0666	.097	.0026	.0017	.0001
	5.0	7.5	-20	-20	0	0	4.01	.0	2	-.005	.0632	-.003	.0634	.086	.0022	.0017	.0002
	5.0	7.5	-20	-20	0	0	4.01	.0	4	.050	.0645	.045	.0645	.071	.0020	.0010	.0005
	5.0	7.5	-20	-20	0	0	4.01	.0	8	.189	.0861	.199	.0589	.063	.0020	.0000	-.0007
	5.0	7.5	-20	-20	0	0	4.01	.0	12	.318	.1215	.338	.0624	.071	.0019	.0001	-.0007
	5.0	7.5	-20	-20	0	0	4.01	.0	16	.459	.2018	.497	.0674	.073	.0019	.0010	-.0012
	5.0	7.5	-20	-20	0	0	4.01	.0	20	.613	.2981	.678	.0704	.068	.0030	.0008	-.0015
	5.0	7.5	-30	-30	0	0	2.98	.0	-4	-.269	.1336	-.278	.1145	.199	.0026	-.0005	-.0006
	5.0	7.5	-30	-30	0	0	2.98	.0	-2	-.200	.1222	-.204	.1151	.196	.0026	-.0008	-.0008
	5.0	7.5	-30	-30	0	0	2.98	.0	0	-.130	.1148	-.130	.1148	.188	.0016	-.0004	-.0007
	5.0	7.5	-30	-30	0	0	2.98	.0	2	-.054	.1110	-.050	.1128	.175	.0006	-.0006	-.0006
	5.0	7.5	-30	-30	0	0	2.98	.0	4	.022	.1078	.030	.1059	.153	.0008	.0001	-.0004
	5.0	7.5	-30	-30	0	0	2.98	.0	8	.189	.1225	.204	.0950	.118	.0009	.0007	-.0004
	5.0	7.5	-30	-30	0	0	2.98	.0	12	.355	.1706	.383	.0930	.098	.0013	.0005	-.0005
	5.0	7.5	-30	-30	0	0	2.98	.0	16	.499	.2353	.544	.0886	.100	.0007	.0002	-.0005
	5.0	7.5	-30	-30	0	0	2.98	.0	20	.648	.3314	.723	.0895	.104	-.0002	-.0009	-.0007
	5.0	7.5	-30	-30	0	0	4.01	.0	-4	-.218	.1137	-.226	.1081	.155	.0012	-.0001	-.0002
	5.0	7.5	-30	-30	0	0	4.01	.0	-2	-.159	.1060	-.163	.1003	.150	.0021	.0003	-.0004
	5.0	7.5	-30	-30	0	0	4.01	.0	0	-.103	.1006	-.103	.1006	.148	.0021	.0013	-.0005
	5.0	7.5	-30	-30	0	0	4.01	.0	2	-.045	.0960	-.042	.0975	.141	.0012	.0011	-.0008
	5.0	7.5	-30	-30	0	0	4.01	.0	4	.023	.0965	.030	.0947	.133	.0017	.0002	-.0011
	5.0	7.5	-30	-30	0	0	4.01	.0	8	.149	.1128	.163	.0910	.118	.0008	-.0008	-.0013
	5.0	7.5	-30	-30	0	0	4.0										

TABLE II - Continued

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,u}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l	
Complete	5.0	7.5	-45	-45	0	0	2.98	0	-4	-0.304	+2203	-0.318	+1986	+0.256	+0.028	-0.007	+0.006	
	5.0	7.5	-45	-45	0	0	2.98	0	-2	-0.21	+2094	-0.349	+1999	+0.257	+0.016	-0.007	-0.005	
	5.0	7.5	-45	-45	0	0	2.98	0	-175	-0.191	+1991	-0.357	+1991	+0.247	+0.016	-0.009	-0.009	
	5.0	7.5	-45	-45	0	0	2.98	0	-101	+1913	-0.394	+1945	+0.233	+0.011	-0.007	-0.007	-0.007	
	5.0	7.5	-45	-45	0	0	2.98	0	-4	-0.026	+1845	-0.413	+1858	+0.211	+0.003	-0.000	-0.004	
	5.0	7.5	-45	-45	0	0	2.98	0	8	+136	+1921	-0.416	+1713	+0.175	+0.006	-0.000	-0.004	
	5.0	7.5	-45	-45	0	0	2.98	0	12	+299	+2314	-0.430	+1641	+0.156	+0.002	+0.001	-0.005	
	5.0	7.5	-45	-45	0	0	2.98	0	16	+448	+2971	-0.512	+1620	+0.151	-0.004	+0.000	-0.007	
	5.0	7.5	-45	-45	0	0	2.98	0	20	+590	+3894	-0.687	+1640	+0.165	+0.014	-0.019	-0.006	
	5.0	7.5	-45	-45	0	0	2.98	0	24	+731	+4804	-0.887	+1640	+0.165	+0.014	-0.019	-0.006	
	5.0	7.5	-45	-45	0	0	4.01	0	-4	-0.264	+2013	-0.277	+1824	+0.216	+0.006	+0.016	-0.003	
	5.0	7.5	-45	-45	0	0	4.01	0	-2	-0.199	+1837	-0.206	+1766	+0.208	+0.008	+0.014	-0.003	
	5.0	7.5	-45	-45	0	0	4.01	0	0	-0.148	+1764	-0.148	+1764	+0.204	+0.002	+0.015	-0.003	
	5.0	7.5	-45	-45	0	0	4.01	0	2	-0.085	+1689	-0.079	+1718	+0.186	+0.005	+0.014	-0.008	
	5.0	7.5	-45	-45	0	0	4.01	0	4	-0.030	+1693	-0.103	+1710	+0.181	+0.005	+0.013	-0.011	
	5.0	7.5	-45	-45	0	0	4.01	0	8	+807	+1833	-0.132	+1694	+0.170	+0.015	+0.009	-0.007	
	5.0	7.5	-45	-45	0	0	4.01	0	12	+202	+2218	-0.244	+1748	+0.164	+0.026	+0.006	-0.011	
	5.0	7.5	-45	-45	0	0	4.01	0	16	+315	+2907	-0.383	+1924	+0.181	+0.027	+0.018	-0.014	
	20.0	7.5	0	0	-3.0	0	4.01	-5.0	-4	-0.131	+0.639	-0.135	+0.545	+0.020	+0.076	-0.0043	+0.008	
	20.0	7.5	0	0	-3.0	0	4.01	-5.0	-2	-0.064	+0.565	-0.066	+0.542	+0.012	+0.079	-0.004	+0.023	
	20.0	7.5	0	0	-3.0	0	4.01	-5.0	0	-0.000	+0.542	-0.000	+0.542	+0.003	+0.0812	-0.0048	+0.032	
	20.0	7.5	0	0	-3.0	0	4.01	-5.0	2	+0.057	+0.558	-0.059	+0.538	+0.005	+0.0836	-0.0051	+0.040	
	20.0	7.5	0	0	-3.0	0	4.01	-5.0	4	+121	+0.609	+0.125	+0.523	+0.017	+0.0864	-0.0052	+0.047	
	20.0	7.5	0	0	-3.0	0	4.01	-5.0	8	+205	+0.538	+0.264	+0.511	+0.039	+0.0899	-0.0041	+0.073	
	20.0	7.5	0	0	-3.0	0	4.01	-5.0	12	+202	+0.518	+0.250	+0.502	+0.060	+0.0913	-0.0017	+0.086	
	20.0	7.5	0	0	-3.0	0	4.01	-5.0	16	+566	+2141	+0.603	+0.497	+0.093	+0.0935	+0.013	+0.093	
	20.0	7.5	0	0	-3.0	0	4.01	-5.0	20	+739	+3216	+0.804	+0.493	+0.133	+0.102	+0.014	+0.106	
	20.0	7.5	0	0	-3.0	0	4.01	-3.0	-4	-0.140	+0.670	-0.145	+0.570	+0.012	+0.081	+0.021	-0.012	
	20.0	7.5	0	0	-3.0	0	4.01	-3.0	-2	-0.015	+0.581	-0.175	+0.565	+0.006	+0.080	+0.001	-0.001	
	20.0	7.5	0	0	-3.0	0	4.01	-3.0	0	+0.017	+0.565	-0.104	+0.565	+0.004	+0.0810	-0.005	-0.005	
	20.0	7.5	0	0	-3.0	0	4.01	-3.0	2	+0.072	+0.565	-0.106	+0.565	+0.013	+0.082	-0.002	+0.011	
	20.0	7.5	0	0	-3.0	0	4.01	-3.0	4	+112	+0.627	-0.116	+0.547	+0.025	+0.0845	-0.002	+0.015	
	20.0	7.5	0	0	-3.0	0	4.01	-3.0	8	+245	+0.603	-0.155	+0.553	+0.043	+0.082	-0.006	+0.036	
	20.0	7.5	0	0	-3.0	0	4.01	-3.0	12	+391	+1.406	-0.111	+0.562	+0.067	+0.0502	+0.019	+0.042	
	20.0	7.5	0	0	-3.0	0	4.01	-3.0	16	+555	+2158	+0.593	+0.544	+0.099	+0.0501	+0.046	+0.045	
	20.0	7.5	0	0	-3.0	0	4.01	-3.0	20	+735	+3224	+0.801	+0.513	+0.147	+0.0557	+0.032	+0.054	
	20.0	7.5	0	0	-3.0	0	4.01	-3.0	24	+122	+0.633	-0.126	+0.546	+0.017	+0.0810	+0.0132	+0.047	
	20.0	7.5	0	0	-3.0	0	4.01	-3.0	28	+0.061	+0.585	-0.063	+0.564	+0.011	+0.070	+0.130	+0.045	
	20.0	7.5	0	0	-3.0	0	4.01	-3.0	32	+0.000	+0.585	+0.000	+0.585	+0.000	+0.0165	+0.133	+0.044	
	20.0	7.5	0	0	-3.0	0	4.01	-3.0	36	+0.067	+0.608	+0.059	+0.585	+0.009	+0.0160	+0.129	+0.045	
	20.0	7.5	0	0	-3.0	0	4.01	-3.0	40	+0.08	+0.563	+0.091	+0.573	+0.021	+0.0159	+0.120	+0.046	
	20.0	7.5	0	0	-3.0	0	4.01	-3.0	44	+142	+2.231	+0.612	+0.566	+0.080	+0.082	+0.094	+0.042	
	20.0	7.5	0	0	-3.0	0	4.01	-3.0	48	+755	+3312	+0.823	+0.528	+0.153	+0.0930	+0.041	+0.026	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	-4	-0.143	+0.655	-0.147	+0.553	+0.016	+0.0529	+0.0108	-0.0047	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	-2	-0.073	+0.573	-0.075	+0.547	+0.010	+0.0566	+0.0093	-0.0029	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	0	-0.006	+0.547	-0.006	+0.547	+0.000	+0.0605	+0.0083	-0.0017	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	4	+0.055	+0.558	-0.056	+0.539	+0.010	+0.0647	+0.0074	-0.0006	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	8	+258	+0.887	+0.268	+0.518	+0.042	+0.0754	+0.0057	+0.038	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	12	+399	+1.387	+0.419	+0.527	+0.060	+0.0793	+0.0061	+0.055	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	16	+560	+2139	+0.597	+0.512	+0.093	+0.0866	+0.0061	+0.074	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	20	+742	+3230	+0.807	+0.497	+0.137	+0.075	+0.039	+0.092	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	24	+131	+1.016	-0.136	+0.563	+0.014	+0.0817	+0.0173	-0.0068	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	28	+0.064	+0.584	+0.004	+0.584	+0.009	+0.0166	+0.158	-0.0056	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	32	+0.067	+0.589	+0.009	+0.584	+0.0207	+0.0164	+0.154	-0.0045	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	36	+132	+0.524	-0.154	+0.524	+0.024	+0.0814	+0.127	-0.0056	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	40	+132	+0.662	-0.137	+0.567	+0.015	+0.0767	+0.119	-0.0029	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	44	+276	+0.659	-0.136	+0.569	+0.036	+0.0827	+0.113	-0.0008	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	48	+242	+0.614	-0.146	+0.537	+0.057	+0.0880	+0.106	-0.0007	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	52	+572	+2221	+0.611	+0.556	+0.091	+0.0849	+0.099	+0.019	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	56	+749	+3274	+0.816	+0.515	+0.139	+0.0526	+0.0599	+0.041	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	60	+137	+0.698	-0.141	+0.600	+0.022	+0.0417	+0.0286	+0.0106	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	64	+0.005	+0.625	+0.005	+0.625	+0.007	+0.0368	+0.0269	+0.0095	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	68	+2	+0.61	+0.653	+0.63	+0.632	+0.003	+0.0366	+0.0261	+0.0095
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	72	+131	+0.704	+0.136	+0.620	+0.014	+0.0353	+0.0250	+0.0096	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	76	+288	+1.000	+0.280	+0.616	+0.033	+0.0336	+0.0219	+0.0090	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	80	+268	+1.525	+0.443	+0.616	+0.056	+0.0280	+0.0192	+0.0078	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	84	+581	+2.280	+0.621	+0.591	+0.092	+0.0174	+0.0135	+0.0061	
	20.0	7.5	0	0	-6.0	0	4.01	-5.0	88	+3365	+834	+0.931	+0.689	+0.146	+0.0667	+0.0073	+0.0041	
	20.0	20.0	5	-5	0	0	4.01	-6	-149	+0.794	-0.154	+0.688	+0.025	-0.0007	+0.028	+0.0057		
	20.0	20.0	5	-5	0	0	4.01	-6	-0.068	+0.737	-0.003	+0.737	+0.014	-0.0011	+0.029	+0.0065		
	20.0	20.0	5	-5	0	0	4.01	-6	-0.000	+0.665	-0.000	+0.665	+0.008	-0.0015	+0.028	+0.0047		
	20.0	20.0	5	-5	0	0	4.01	-6	+0.056	+0.695	+0.059	+0.672	+0.0					

TABLE II.- Continued

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,u}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l	
Complete	20.0	20.0	0	0	0	0	2.98	-5.0	-4	-155	.0871	-160	.0761	.029	.1117	-.0312	.0075	
	20.0	20.0	0	0	0	0	2.98	-5.0	-2	-107	.0797	-108	.0770	.017	.1093	-.0293	.0080	
	20.0	20.0	0	0	0	0	2.98	-5.0	0	-103	.0777	-103	.0777	.000	.1088	-.0270	.0083	
	20.0	20.0	0	0	0	0	2.98	-5.0	2	-106	.0799	-109	.0772	-.018	.1086	-.0266	.0083	
	20.0	20.0	0	0	0	0	2.98	-5.0	4	-159	.0882	-165	.0769	-.038	.1088	-.0222	.0084	
	20.0	20.0	0	0	0	0	2.98	-5.0	8	.316	.1192	.330	.0739	.070	.1092	-.0184	.0089	
	20.0	20.0	0	0	0	0	2.98	-5.0	12	.484	.1787	.512	.0737	-.106	.1085	-.0149	.0108	
	20.0	20.0	0	0	0	0	2.98	-5.0	14	.659	.2642	.708	.0722	-.139	.1049	-.0100	.0120	
	20.0	20.0	0	0	0	0	2.98	-3.0	-	-156	.0846	-162	.0735	.027	.0689	-.0199	.0039	
	20.0	20.0	0	0	0	0	2.98	-3.0	-2	-104	.0767	-107	.0741	.014	.0666	-.0182	.0041	
	20.0	20.0	0	0	0	0	2.98	-3.0	0	.001	.0744	.001	.0748	-.002	.0652	-.0166	.0043	
	20.0	20.0	0	0	0	0	2.98	-3.0	2	.085	.0785	.086	.0756	-.022	.0643	-.0152	.0044	
	20.0	20.0	0	0	0	0	2.98	-3.0	4	.166	.0862	.165	.0750	-.040	.0631	-.0134	.0046	
	20.0	20.0	0	0	0	0	2.98	-3.0	6	.320	.1444	.339	.0738	-.069	.0619	-.0101	.0051	
	20.0	20.0	0	0	0	0	2.98	-3.0	10	.497	.0811	.505	.0756	-.105	.0622	-.0155	.0059	
	20.0	20.0	0	0	0	0	2.98	-3.0	16	.649	.2656	.716	.0709	-.144	.0576	-.0031	.0062	
	20.0	20.0	0	0	0	0	2.98	-3.0	20	.850	.3799	.928	.0662	-.184	.0577	-.0018	.0074	
	20.0	20.0	0	0	0	0	2.98	-3.0	0	.004	-.146	.0770	-.151	.0666	-.022	.0065	-.0019	-.0003
	20.0	20.0	0	0	0	0	2.98	-3.0	-2	-.071	.0727	-.074	.0702	.012	.0551	-.0018	-.0003	
	20.0	20.0	0	0	0	0	2.98	-3.0	4	.010	.0694	.010	.0718	-.005	.0047	-.0014	-.0003	
	20.0	20.0	0	0	0	0	2.98	-3.0	6	.087	.0763	.090	.0732	-.024	.0038	-.0010	-.0005	
	20.0	20.0	0	0	0	0	2.98	-3.0	8	.166	.0860	.172	.0742	-.044	.0030	-.0009	-.0005	
	20.0	20.0	0	0	0	0	2.98	-3.0	12	.247	.1229	.350	.0749	-.082	.0028	-.0019	-.0006	
	20.0	20.0	0	0	0	0	2.98	-3.0	16	.307	.1834	.534	.0738	-.113	.0031	-.0013	-.0007	
	20.0	20.0	0	0	0	0	2.98	-3.0	18	.378	.2683	.725	.0710	-.148	.0025	-.0013	-.0007	
	20.0	20.0	0	0	0	0	2.98	-3.0	20	.454	.3843	.934	.0688	-.186	.0029	-.0017	-.0005	
	20.0	20.0	0	0	0	0	2.98	-3.0	0	-.146	.0757	-.147	.0690	-.034	-.0133	-.0037	-.0020	
	20.0	20.0	0	0	0	0	2.98	-3.0	-2	-.071	.0753	-.074	.0724	-.003	.0145	-.0035	-.0020	
	20.0	20.0	0	0	0	0	2.98	-3.0	4	.082	.0764	.085	.0748	-.022	-.0143	-.0030	-.0021	
	20.0	20.0	0	0	0	0	2.98	-3.0	6	.164	.0873	.169	.0757	-.043	-.0141	-.0026	-.0021	
	20.0	20.0	0	0	0	0	2.98	-3.0	8	.232	.1229	.346	.0755	-.081	-.0148	-.0017	-.0024	
	20.0	20.0	0	0	0	0	2.98	-3.0	12	.303	.1826	.530	.0739	-.114	.0134	-.0005	-.0024	
	20.0	20.0	0	0	0	0	2.98	-3.0	16	.374	.2661	.721	.0698	-.148	-.0141	-.0008	-.0030	
	20.0	20.0	0	0	0	0	2.98	-3.0	20	.455	.3848	.935	.0691	-.186	-.0126	-.0012	-.0031	
	20.0	20.0	0	0	0	0	4.01	-5.0	-4	-140	.0730	-.145	.0630	.013	.1032	-.0215	.0047	
	20.0	20.0	0	0	0	0	4.01	-5.0	-2	-.074	.0633	-.076	.0637	-.005	.1051	-.0212	.0058	
	20.0	20.0	0	0	0	0	4.01	-5.0	0	-.010	.0639	-.010	.0639	-.004	.1070	-.0212	.0064	
	20.0	20.0	0	0	0	0	4.01	-5.0	2	.056	.0663	.059	.0643	-.016	.1081	-.0210	.0069	
	20.0	20.0	0	0	0	0	4.01	-5.0	4	.131	.0721	.124	.0537	-.027	.1104	-.0211	.0073	
	20.0	20.0	0	0	0	0	4.01	-5.0	6	.206	.1424	.247	.0565	-.045	.1134	-.0191	.0094	
	20.0	20.0	0	0	0	0	4.01	-5.0	12	.299	.1523	.422	.0640	-.075	.1121	-.017	.0172	
	20.0	20.0	0	0	0	0	4.01	-5.0	16	.561	.2300	.603	.0663	-.09	.1092	-.0097	.0094	
	20.0	20.0	0	0	0	0	4.01	-5.0	20	.733	.3390	.805	.0677	-.157	.1162	-.0082	.0099	
	20.0	20.0	0	0	0	0	4.01	-3.0	-4	-.133	.0725	-.138	.0630	.010	.0634	-.0139	.0031	
	20.0	20.0	0	0	0	0	4.01	-3.0	-2	-.061	.0665	-.063	.0644	-.004	.0636	-.0139	.0035	
	20.0	20.0	0	0	0	0	4.01	-3.0	0	.000	.0645	-.000	.0645	-.003	.0636	-.0140	.0039	
	20.0	20.0	0	0	0	0	4.01	-3.0	2	.065	.0670	.067	.0647	-.019	.0648	-.0143	.0043	
	20.0	20.0	0	0	0	0	4.01	-3.0	4	.129	.0733	.134	.0641	-.028	.0670	-.0145	.0046	
	20.0	20.0	0	0	0	0	4.01	-3.0	8	.258	.1023	.270	.0653	-.048	.0675	-.0129	.0059	
	20.0	20.0	0	0	0	0	4.01	-3.0	12	.407	.1555	.430	.0675	-.074	.0664	-.0101	.0061	
	20.0	20.0	0	0	0	0	4.01	-3.0	16	.565	.2326	.607	.0679	-.110	.0631	-.0051	.0056	
	20.0	20.0	0	0	0	0	4.01	-3.0	20	.748	.3439	.821	.0681	-.161	.0667	-.0042	.0056	
	20.0	20.0	0	0	0	0	4.01	-3.0	-4	-.137	.0725	-.138	.0630	.010	.0634	-.0139	.0031	
	20.0	20.0	0	0	0	0	4.01	-3.0	-2	-.064	.0656	-.064	.0656	-.004	.0640	-.0000	.0001	
	20.0	20.0	0	0	0	0	4.01	-3.0	0	-.000	.0649	-.000	.0649	-.003	.0637	-.0011	.0003	
	20.0	20.0	0	0	0	0	4.01	-3.0	2	.069	.0671	.072	.0647	-.133	.0648	-.0045	.0043	
	20.0	20.0	0	0	0	0	4.01	-3.0	4	.132	.0733	.134	.0641	-.208	.0670	-.0145	.0046	
	20.0	20.0	0	0	0	0	4.01	-3.0	8	.270	.1032	.282	.0640	-.049	.0639	-.0007	-.0003	
	20.0	20.0	0	0	0	0	4.01	-3.0	12	.421	.1587	.445	.0676	-.094	.0666	-.0226	-.0006	
	20.0	20.0	0	0	0	0	4.01	-3.0	16	.583	.2373	.626	.0672	-.111	.0630	-.0042	-.0007	
	20.0	20.0	0	0	0	0	4.01	-3.0	20	.763	.3516	.837	.0693	-.166	.0620	-.0026	-.0035	

TABLE II. - Continued

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	20.0	20.0	0	0	-3.0	0	2.98	-5.0	-4	-166	0.832	-172	0.714	.021	.0897	-0.172	.0024
	20.0	20.0	0	0	-3.0	0	2.98	-5.0	-2	-888	-0.766	-0.091	0.713	-0.005	0.0892	-0.157	.0033
	20.0	20.0	0	0	-3.0	0	2.98	-5.0	0	-0.13	0.718	-0.13	0.718	-0.005	0.0876	-0.137	.0038
	20.0	20.0	0	0	-3.0	0	2.98	-5.0	2	6.08	0.755	.071	0.731	-0.025	0.0882	-0.121	.0038
	20.0	20.0	0	0	-3.0	0	2.98	-5.0	4	146	0.828	.151	0.724	-0.042	0.0899	-0.109	.0041
	20.0	20.0	0	0	-3.0	0	2.98	-5.0	8	.324	1.166	.337	0.703	-0.074	0.0918	-0.081	.0054
	20.0	20.0	0	0	-3.0	0	2.98	-5.0	12	.490	1.761	.516	0.704	-0.108	0.0935	-0.066	.0074
	20.0	20.0	0	0	-3.0	0	2.98	-5.0	16	.656	2.610	.702	0.700	-0.145	0.0929	-0.034	.0092
	20.0	20.0	0	0	-3.0	0	2.98	-5.0	20	.836	3.733	.913	0.649	-0.185	0.0965	-0.015	.0106
	20.0	20.0	0	0	-3.0	0	2.98	-3.0	-4	-158	0.821	-163	0.708	.019	0.053	-0.055	-0.007
	20.0	20.0	0	0	-3.0	0	2.98	-3.0	-2	-4.0	0.755	-0.079	0.728	.000	0.054	-0.044	-0.001
	20.0	20.0	0	0	-3.0	0	2.98	-3.0	0	-0.001	0.028	-0.001	0.728	-0.007	0.044	-0.036	-0.002
	20.0	20.0	0	0	-3.0	0	2.98	-3.0	2	.076	0.764	.079	0.739	-0.026	0.052	-0.026	.006
	20.0	20.0	0	0	-3.0	0	2.98	-3.0	4	.154	0.846	.159	0.736	-0.043	0.063	-0.019	.0007
	20.0	20.0	0	0	-3.0	0	2.98	-3.0	8	.321	1.184	.335	0.724	-0.079	0.066	-0.002	.0018
	20.0	20.0	0	0	-3.0	0	2.98	-3.0	12	.492	1.782	.518	0.719	-0.112	0.068	-0.019	.0031
	20.0	20.0	0	0	-3.0	0	2.98	-3.0	16	.663	2.631	.710	0.700	-0.147	0.067	-0.038	.0041
	20.0	20.0	0	0	-3.0	0	2.98	-3.0	20	.841	3.754	.918	0.651	-0.187	0.098	-0.028	.0060
	20.0	20.0	0	0	-3.0	0	2.98	+0	-4	-151	0.786	-156	0.678	.028	-0.0174	0.0129	-0.0051
	20.0	20.0	0	0	-3.0	0	2.98	+0	-2	-4.0	0.742	-0.076	0.716	.007	-0.0179	0.0125	-0.0048
	20.0	20.0	0	0	-3.0	0	2.98	+0	0	.000	0.027	.000	0.027	-0.008	-0.0178	0.0122	-0.0046
	20.0	20.0	0	0	-3.0	0	2.98	+0	2	.078	0.766	.080	0.739	-0.027	-0.0166	0.0118	-0.0067
	20.0	20.0	0	0	-3.0	0	2.98	+0	4	.158	0.859	.164	0.746	-0.048	-0.0165	0.0115	-0.0046
	20.0	20.0	0	0	-3.0	0	2.98	+0	8	.328	1.214	.342	0.745	-0.086	-0.0156	0.0103	-0.0045
	20.0	20.0	0	0	-3.0	0	2.98	+0	12	.499	1.815	.526	0.736	-0.116	0.083	-0.042	.0042
	20.0	20.0	0	0	-3.0	0	2.98	+0	16	.667	2.645	.714	0.704	-0.148	0.0804	-0.066	.0032
	20.0	20.0	0	0	-3.0	0	2.98	+0	20	.852	3.823	.931	0.678	-0.190	0.063	-0.035	.0022
	20.0	20.0	0	0	-3.0	0	2.98	+0	-4	-139	0.697	-144	0.598	.011	.0825	-0.089	.0000
	20.0	20.0	0	0	-3.0	0	2.98	+0	-2	-0.076	0.633	-0.078	0.606	.002	0.051	-0.093	.0014
	20.0	20.0	0	0	-3.0	0	2.98	+0	0	-.018	0.608	-0.018	0.608	-.007	0.077	-0.0097	.0025
	20.0	20.0	0	0	-3.0	0	2.98	+0	2	.045	0.631	.047	0.615	-.020	0.010	-0.0106	.0032
	20.0	20.0	0	0	-3.0	0	2.98	+0	4	.106	0.684	.110	0.658	-.032	0.093	-0.0115	.0038
	20.0	20.0	0	0	-3.0	0	2.98	+0	8	.256	0.978	.267	0.612	-.051	0.087	-0.0105	.0063
	20.0	20.0	0	0	-3.0	0	2.98	+0	12	.402	1.510	.425	0.640	-.073	0.106	-0.088	.0076
	20.0	20.0	0	0	-3.0	0	2.98	+0	16	.565	2.288	.606	0.641	-.108	0.1028	-0.059	.0082
	20.0	20.0	0	0	-3.0	0	2.98	+0	20	.739	3.402	.811	0.666	-.156	0.111	-0.062	.0091
	20.0	20.0	0	0	-3.0	0	2.98	+0	-4	-132	0.719	-137	0.624	.011	0.049	-0.009	.0018
	20.0	20.0	0	0	-3.0	0	2.98	+0	-2	-0.055	0.657	-.056	0.638	.003	0.042	-0.021	.0009
	20.0	20.0	0	0	-3.0	0	2.98	+0	0	.004	0.637	.004	0.637	-.003	0.053	-0.027	.0003
	20.0	20.0	0	0	-3.0	0	2.98	+0	2	.069	0.650	.070	0.639	-.007	0.079	-0.033	.0002
	20.0	20.0	0	0	-3.0	0	2.98	+0	4	.126	0.696	.135	0.633	-.026	0.066	-0.042	.0035
	20.0	20.0	0	0	-3.0	0	2.98	+0	8	.245	1.228	.277	0.648	-.046	0.054	-0.040	.0075
	20.0	20.0	0	0	-3.0	0	2.98	+0	12	.407	1.549	.431	0.667	-.072	0.058	-0.029	.0032
	20.0	20.0	0	0	-3.0	0	2.98	+0	16	.566	2.323	.608	0.672	-.106	0.056	-0.006	.0036
	20.0	20.0	0	0	-3.0	0	2.98	+0	20	.732	3.464	.825	0.681	-.158	0.031	-0.021	.0043
	20.0	20.0	0	0	-3.0	0	2.98	+0	-4	-112	0.685	-117	0.604	.018	0.075	-0.126	.0049
	20.0	20.0	0	0	-3.0	0	2.98	+0	-2	-0.048	0.649	-.051	0.632	-.008	0.070	-0.125	.0047
	20.0	20.0	0	0	-3.0	0	2.98	+0	0	.015	0.642	.015	0.642	-.001	0.060	-0.127	.0045
	20.0	20.0	0	0	-3.0	0	2.98	+0	4	.079	0.681	.081	0.653	-.024	0.050	-0.124	.0046
	20.0	20.0	0	0	-3.0	0	2.98	+0	8	.280	1.066	.292	0.665	-.042	0.048	-0.047	.0047
	20.0	20.0	0	0	-3.0	0	2.98	+0	12	.434	1.626	.458	0.687	-.06	0.032	-0.088	.0043
	20.0	20.0	0	0	-3.0	0	2.98	+0	16	.589	2.411	.633	0.692	-.104	0.077	-0.064	.0040
	20.0	20.0	0	0	-3.0	0	2.98	+0	20	.767	3.512	.841	0.675	-.160	0.016	-0.033	.0030
	20.0	20.0	0	0	-6.0	0	2.98	-5.0	-4	-156	0.830	-161	0.719	.027	.0639	-0.003	.0035
	20.0	20.0	0	0	-6.0	0	2.98	-5.0	-2	-0.075	0.751	-.077	0.725	.016	0.047	-0.001	.0023
	20.0	20.0	0	0	-6.0	0	2.98	-5.0	0	.000	0.727	.000	0.727	-.000	0.048	-0.011	.0018
	20.0	20.0	0	0	-6.0	0	2.98	-5.0	2	.078	0.762	.081	0.734	-.017	0.049	-0.024	.0015
	20.0	20.0	0	0	-6.0	0	2.98	-5.0	4	.160	0.841	.165	0.727	-.038	0.092	-0.028	.0009
	20.0	20.0	0	0	-6.0	0	2.98	-5.0	8	.321	1.164	.335	0.705	-.071	0.072	-0.036	.0008
	20.0	20.0	0	0	-6.0	0	2.98	-5.0	12	.491	1.773	.518	0.711	-.108	0.077	-0.037	.0038
	20.0	20.0	0	0	-6.0	0	2.98	-5.0	16	.661	2.634	.708	0.709	-.139	0.0809	-0.041	.0063
	20.0	20.0	0	0	-6.0	0	2.98	-5.0	20	.845	3.765	.923	0.646	-.180	0.0908	-0.025	.0091
	20.0	20.0	0	0	-6.0	0	2.98	-3.0	-4	-154	0.847	-160	0.737	.027	.0196	-0.015	.0065
	20.0	20.0	0	0	-6.0	0	2.98	-3.0	-2	-0.073	0.781	-.075	0.755	.015	.0207	-0.012	.0057
	20.0	20.0	0	0	-6.0	0	2.98	-3.0	0	.005	0.759	.005	0.759	.001	.0208	-0.016	.0052
	20.0	20.0	0	0	-6.0	0	2.98	-3.0	4	.083	0.787	.085	0.758	-.019	.0229	-0.011	.0047
	20.0	20.0	0	0	-6.0	0	2.98	-3.0	8	.242	1.250	.271	0.735	-.038	.0251	-0.018	.0041
	20.0	20.0	0	0	-6.0	0	2.98	-3.0	12	.402	1.833	.529	0.749	-.107	.014	-0.010	.0010
	20.0	20.0	0	0	-6.0	0	2.98	-3.0	16	.567	2.660	.715	0.717	-.140	.0327	-0.022	.0011
	20.0	20.0	0	0	-6.0	0	2.98	-3.0	20	.847	3.782	.926	0.654	-.177	.0429	-0.077	.0041
	20.0	20.0	0	0	-6.0	0	2.98	+0	-4	-140	0.844	-.145	0.744	-.028	.0438	-0.0294	.0108
	20.0	20.0	0	0	-6.0	0	2.98	+0	-2	-0.066	0.801	-.069	0.778	-.018	.0429	-0.0284	.0104
	20.0	20.0	0	0	-6.0	0	2.98	+0	0	.007	0.780	.007	0.780	-.001	.0418	-0.0274	.0102
	20.0	20.0	0	0	-6.0	0	2.98	+0	4	.091	0.819						

TABLE II- Continued

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	20.0	20.0	0	0	-6.0	0	4.01	-5.0	-4	-130	.0692	-135	.0599	.011	.0575	.0065	-0.0055
	20.0	20.0	0	0	-6.0	0	4.01	-5.0	-2	-0.67	.0630	-0.69	.0606	.005	.0623	.0048	-0.0036
	20.0	20.0	0	0	-6.0	0	4.01	-5.0	0	-0.06	.0607	-0.06	.0607	-0.005	.0651	.0035	-0.0023
	20.0	20.0	0	0	-5.0	0	4.01	-5.0	2	.057	.0637	.059	.0617	-0.016	.0701	.0021	-0.0016
	20.0	20.0	0	0	-6.0	0	4.01	-5.0	4	.121	.0694	.126	.0607	-0.028	.0750	.0005	-0.0005
	20.0	20.0	0	0	-6.0	0	4.01	-5.0	12	.399	.1497	.422	.0633	-0.072	.0872	-0.007	.0045
	20.0	20.0	0	0	-6.0	0	4.01	-5.0	16	.562	.2281	.603	.0643	-1.08	.0945	-0.014	.0061
	20.0	20.0	0	0	-6.0	0	4.01	-5.0	20	.726	.337	.805	.0655	-1.93	.0656	-0.016	.0061
	20.0	20.0	0	0	-5.0	0	4.01	-5.0	4	.137	.0744	.142	.0646	.019	.0749	.0148	-0.0074
	20.0	20.0	0	0	-6.0	0	4.01	-5.0	12	.069	.0483	.043	.0604	.002	.0206	.0126	-0.0061
	20.0	20.0	0	0	-6.0	0	4.01	-5.0	0	-0.06	.0661	-0.004	.0661	-0.005	.0234	.0115	-0.0053
	20.0	20.0	0	0	-6.0	0	4.01	-3.0	2	.059	.0677	.062	.0656	-.018	.0267	.0099	-0.0044
	20.0	20.0	0	0	-6.0	0	4.01	-3.0	4	.123	.0739	.128	.0651	-0.029	.0308	.0083	-0.0036
	20.0	20.0	0	0	-6.0	0	4.01	-3.0	8	.261	.1042	.273	.0669	-0.051	.0366	.0073	-0.0016
	20.0	20.0	0	0	-6.0	0	4.01	-3.0	12	.403	.1562	.427	.0689	-0.074	.0377	.0069	-0.0001
	20.0	20.0	0	0	-6.0	0	4.01	-3.0	16	.563	.2347	.606	.0702	-1.08	.0472	.0055	.0008
	20.0	20.0	0	0	-6.0	0	4.01	-3.0	20	.742	.3432	.814	.0687	-1.58	.0570	.0011	.0029
	20.0	20.0	0	0	-6.0	0	4.01	0	-4	-1.12	.0762	-.131	.0672	.017	.0437	.0288	-0.0107
	20.0	20.0	0	0	-6.0	0	4.01	0	-2	-0.60	.0704	-.062	.0683	.009	.0404	.0276	-0.0101
	20.0	20.0	0	0	-6.0	0	4.01	0	0	.000	.0693	.000	.0693	-.001	.0394	.0271	-0.0097
	20.0	20.0	0	0	-6.0	0	4.01	0	2	.067	.0723	.069	.0700	-.011	.0384	.0261	-0.0097
	20.0	20.0	0	0	-6.0	0	4.01	0	4	.134	.0798	.139	.0702	-.023	.0371	.0207	-0.007
	20.0	20.0	0	0	-6.0	0	4.01	0	8	.268	.1048	.281	.0715	-.044	.0304	.0222	-0.0091
	20.0	20.0	0	0	-6.0	0	4.01	0	12	.417	.1636	.442	.0722	-.06	.0297	.0192	-0.0084
	20.0	20.0	0	0	-6.0	0	4.01	0	16	.578	.2417	.622	.0728	-.107	.0187	.0134	-0.0065
	20.0	20.0	0	0	-6.0	0	4.01	0	20	.758	.3509	.832	.0704	-.161	.0076	.0069	-0.0043
	20.0	20.0	-5	-5	0	0	2.98	0	-4	.175	.0830	-.180	.0706	.061	.0052	-.0018	-0.0002
	20.0	20.0	-5	-5	0	0	2.98	0	-2	.101	.0766	-.104	.0731	.053	.0043	-.0016	0.0000
	20.0	20.0	-5	-5	0	0	2.98	0	0	-.023	.0729	-.023	.0729	.037	.0039	-.0011	0.0001
	20.0	20.0	-5	-5	0	0	2.98	0	2	.054	.0750	.057	.0731	.019	.0030	-.0009	0.001
	20.0	20.0	-5	-5	0	0	2.98	0	4	.131	.0823	.137	.0729	-.001	.0020	-.0009	0.0001
	20.0	20.0	-5	-5	0	0	2.98	0	8	.303	.1144	.316	.0711	-.039	.0019	-.0008	-0.0002
	20.0	20.0	-5	-5	0	0	2.98	0	12	.471	.1698	.496	.0682	-.065	.0022	-.0011	-0.0003
	20.0	20.0	-5	-5	0	0	2.98	0	16	.642	.2513	.686	.0646	-.093	.0020	-.0013	0.0000
	20.0	20.0	-5	-5	0	0	2.98	0	20	.816	.3611	.891	.0599	-.125	.0025	-.0018	0.0000
	20.0	20.0	-5	-5	0	0	4.01	0	-4	.145	.0718	-.150	.0614	.039	.0034	-.0004	-0.0002
	20.0	20.0	-5	-5	0	0	4.01	0	-2	.079	.0673	-.081	.0645	.034	.0035	-.0001	0.0000
	20.0	20.0	-5	-5	0	0	4.01	0	0	-.018	.0634	-.018	.0634	.023	.0031	-.0004	0.0000
	20.0	20.0	-5	-5	0	0	4.01	0	2	.042	.0656	.045	.0641	.011	.0032	-.0007	-0.0007
	20.0	20.0	-5	-5	0	0	4.01	0	4	.112	.0714	.117	.0633	.000	.0028	-.0009	-0.0009
	20.0	20.0	-5	-5	0	0	4.01	0	8	.244	.0988	.256	.0637	-.013	.0028	-.0004	-0.0010
	20.0	20.0	-5	-5	0	0	4.01	0	12	.393	.1500	.416	.0649	-.028	.0022	-.0002	-0.0019
	20.0	20.0	-5	-5	0	0	4.01	0	16	.547	.2251	.588	.0655	-.055	.0020	-.0007	-0.0015
	20.0	20.0	-5	-5	0	0	4.01	0	20	.727	.3319	.797	.0630	-.097	.0049	-.0001	-0.0022
	20.0	20.0	-5	-15	0	0	2.98	0	-4	.194	.0940	-.200	.0802	.091	-.0006	.0049	.0052
	20.0	20.0	-5	-15	0	0	2.98	0	-2	.121	.0873	-.124	.0830	.086	-.0016	.0052	.0056
	20.0	20.0	-5	-15	0	0	2.98	0	0	-.047	.0830	-.047	.0830	.071	-.0025	.0054	.0062
	20.0	20.0	-5	-15	0	0	2.98	0	2	.033	.0834	.036	.0821	.052	-.0029	.0052	.0063
	20.0	20.0	-5	-15	0	0	2.98	0	4	.118	.0886	.123	.0802	.030	-.0027	.0046	.0061
	20.0	20.0	-5	-15	0	0	2.98	0	8	.279	.1164	.292	.0784	-.043	.0024	-.0016	.0056
	20.0	20.0	-5	-15	0	0	2.98	0	12	.448	.1698	.474	.0728	-.028	.0017	-.0028	.0063
	20.0	20.0	-5	-15	0	0	2.98	0	16	.611	.2472	.656	.0690	-.048	.0034	-.0029	.0073
	20.0	20.0	-5	-15	0	0	2.98	0	20	.784	.3509	.857	.0613	-.075	.0035	-.0027	.0086
	20.0	20.0	-5	-15	0	0	4.01	0	-4	.151	.0806	-.156	.0699	.063	-.0027	.0051	.0046
	20.0	20.0	-5	-15	0	0	4.01	0	-2	.090	.0755	-.093	.0723	.059	-.0027	.0060	.0051
	20.0	20.0	-5	-15	0	0	4.01	0	0	-.027	.0722	-.027	.0722	.050	-.0026	.0063	.0054
	20.0	20.0	-5	-15	0	0	4.01	0	2	.033	.0718	.036	.0706	.039	-.0025	.0056	.0048
	20.0	20.0	-5	-15	0	0	4.01	0	4	.100	.0759	.105	.0687	.027	-.0029	.0046	.0045
	20.0	20.0	-5	-15	0	0	4.01	0	8	.229	.1008	.241	.0680	.013	-.0037	.0034	.0046
	20.0	20.0	-5	-15	0	0	4.01	0	12	.370	.1500	.393	.0698	.006	-.0045	.0045	.0058
	20.0	20.0	-5	-15	0	0	4.01	0	16	.518	.2215	.559	.0700	-.013	.0047	-.0057	.0069
	20.0	20.0	-5	-15	0	0	4.01	0	20	.685	.3237	.755	.0696	-.046	.0039	-.0063	.0085
	20.0	20.0	-10	-10	0	0	2.98	0	-4	.186	.0897	-.191	.0765	.092	-.0055	-.0024	-0.0004
	20.0	20.0	-10	-10	0	0	2.98	0	-2	.115	.0827	-.117	.0786	.087	-.0040	-.0018	-0.0004
	20.0	20.0	-10	-10	0	0	2.98	0	0	-.037	.0787	-.037	.0787	.071	-.0017	-.0002	-0.0002
	20.0	20.0	-10	-10	0	0	2.98	0	4	.122	.0842	.127	.0755	.030	-.0024	-.0011	-0.0003
	20.0	20.0	-10	-10	0	0	2.98	0	8	.286	.1128	.299	.0719	-.005	.0017	-.0011	-0.0005
	20.0	20.0	-10	-10	0	0	2.98	0	12	.454	.1667	.479	.0686	-.031	.0025	-.0014	-0.0006
	20.0	20.0	-10	-10	0	0	2.98	0	16	.615	.2423	.658	.0633	-.052	.0007	-.0013	-0.0007
	20.0	20.0	-10	-10	0	0	2.98	0	20	.791	.3505	.863	.0588	-.076	.0021	-.0016	-0.0006
	20.0	20.0	-10	-10	0	0	4.01	0	-2	-.096	.0733	-.099	.0699	.059	-.0033	-.0001	-.0001
	20.0	20.0	-10	-10	0	0	4.01	0	0	-.036	.0692	-.036	.0692	.049	-.0029	-.0011	-.0001
	20.0	20.0	-10	-10	0	0	4.01	0	2	.033	.0691	.036	.0679	.035	-.0030	-.0007	-.0003
	20.0	20.0	-10	-10	0	0	4.01	0	4	.097	.0737	.102	.0667	.026	-.0031	-.0002	-.0005
	20.0	20.0	-10	-10	0	0	4.01	0	8	.227	.0981	.238	.0655	.014	-.0014	-.0003	-.0007
	20.0	20.0	-10	-10	0</td												

TABLE II.- Continued
CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l		
Complete	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	0	-.051	.0818	-.051	.0818	.078	.0899	-.0151	.0029		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	2	.030	.0804	.033	.0793	.058	.0897	-.0128	.0034		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	4	.105	.0838	.110	.0763	.041	.0905	-.0113	.0033		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	8	.275	.1108	.288	.0713	.004	.0931	-.0092	.0038		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	12	.440	.1180	.288	.0704	.004	.0926	-.0081	.0038		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	16	.605	.1250	.242	.0692	.004	.0917	-.0071	.0037		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	20	.775	.1290	.240	.0651	.004	.0937	-.0043	.0037		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	24	.945	.1250	.192	.0622	.004	.0927	-.0025	.0036		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	28	.125	.1290	.080	.0598	.004	.0972	-.0097	.0036		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	32	.160	.1250	.0873	-.127	.0829	.090	.0470	-.0061	-.0011	
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	36	.195	.1250	.045	.0821	.074	.0454	-.0045	-.0003		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	40	.230	.1250	.045	.0821	.074	.0454	-.0045	-.0003		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	44	.268	.1250	.028	.0808	.031	.0798	.054	.0456	-.0033	.0001
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	48	.313	.1250	.053	.0853	.119	.0772	.034	.0473	-.0021	.0005
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	52	.378	.1115	.291	.0717	.001	.0471	-.0001	.0007		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	56	.448	.1655	.473	.0686	.029	.0479	.0009	.0020		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	60	.520	.1655	.650	.0658	.048	.0454	.0032	.0025		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	64	.596	.1655	.844	.0527	.068	.0556	-.0006	.0050		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	68	.675	.1384	.844	.0527	.068	.0556	-.0006	.0050		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	72	.755	.1384	.844	.0527	.068	.0556	-.0006	.0050		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	76	.838	.1384	.844	.0527	.068	.0556	-.0006	.0050		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	80	.922	.1384	.844	.0527	.068	.0556	-.0006	.0050		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	84	.100	.1384	.844	.0527	.068	.0556	-.0006	.0050		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	88	.117	.1384	.844	.0527	.068	.0556	-.0006	.0050		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	92	.132	.1384	.844	.0527	.068	.0556	-.0006	.0050		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	96	.148	.1384	.844	.0527	.068	.0556	-.0006	.0050		
	20.0	20.0	-10	-10	-3.0	.0	2.98	-5.0	100	.165	.1384	.844	.0527	.068	.0556	-.0006	.0050		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	12	.021	.0801	.023	.0794	.061	.0664	-.0016	.0016		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	16	.102	.0841	.108	.0767	.061	.0687	-.0024	.0013		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	20	.267	.1099	.280	.0715	.005	.0755	.0026	-.0001		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	24	.435	.1623	.459	.0682	.020	.0796	.0029	.0023		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	28	.597	.2399	.640	.0659	.043	.0831	.0032	.0048		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	32	.755	.3400	.844	.0587	.072	.0922	.0023	.0073		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	36	.913	.4400	.844	.0587	.072	.0922	.0023	.0073		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	40	.107	.5400	.844	.0587	.072	.0922	.0023	.0073		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	44	.123	.6400	.844	.0587	.072	.0922	.0023	.0073		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	48	.140	.7400	.844	.0587	.072	.0922	.0023	.0073		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	52	.156	.8400	.844	.0587	.072	.0922	.0023	.0073		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	56	.172	.9400	.844	.0587	.072	.0922	.0023	.0073		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	60	.188	.1040	.844	.0587	.072	.0922	.0023	.0073		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	64	.204	.1140	.844	.0587	.072	.0922	.0023	.0073		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	68	.220	.1240	.844	.0587	.072	.0922	.0023	.0073		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	72	.236	.1340	.844	.0587	.072	.0922	.0023	.0073		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	76	.252	.1440	.844	.0587	.072	.0922	.0023	.0073		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	80	.268	.1540	.844	.0587	.072	.0922	.0023	.0073		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	84	.284	.1640	.844	.0587	.072	.0922	.0023	.0073		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	88	.300	.1740	.844	.0587	.072	.0922	.0023	.0073		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	92	.316	.1840	.844	.0587	.072	.0922	.0023	.0073		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	96	.332	.1940	.844	.0587	.072	.0922	.0023	.0073		
	20.0	20.0	-10	-10	-6.0	.0	2.98	-5.0	100	.348	.2040	.844	.0587	.072	.0922	.0023	.0073		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	-4	.251	.1269	.259	.1091	.161	.1072	-.0256	.0107		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	-2	.180	.1152	.194	.1059	.157	.1055	-.0232	.0114		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	0	.106	.1082	.106	.1082	.145	.1024	-.0200	.0122		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	2	.024	.1033	.021	.1041	.125	.1009	-.0172	.0135		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	4	.053	.1049	.061	.1008	.107	.1017	-.0151	.0135		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	8	.213	.1218	.228	.0909	.074	.1047	-.0129	.0134		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	12	.383	.1688	.409	.0855	.045	.1044	-.0105	.0144		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	16	.541	.2404	.586	.0819	.030	.0998	-.0049	.0158		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	-4	.240	.1240	.248	.1065	.155	.0623	-.0133	.0083		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	-2	.167	.1137	.171	.1078	.149	.0608	-.0120	.0082		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	0	.073	.1065	.093	.1065	.139	.0579	-.0095	.0091		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	2	.019	.1025	.0105	.1031	.121	.0576	-.0077	.0099		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	4	.058	.1030	.065	.098	.101	.0562	-.0054	.0105		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	8	.224	.1225	.238	.0901	.056	.0557	-.0038	.0098		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	12	.392	.1105	.418	.0853	.050	.0549	-.0038	.0106		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	16	.560	.1040	.512	.0908	.040	.0549	-.0038	.0106		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	0	.160	.1040	.150	.0931	.030	.0578	-.0038	.0106		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	2	.160	.1040	.150	.0931	.030	.0578	-.0038	.0106		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	4	.073	.1050	.080	.0971	.129	.0441	-.0083	.0051		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	8	.226	.1249	.242	.0921	.065	.0556	-.0056	.0057		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	12	.396	.1729	.423	.0867	.040	.0553	-.0056	.0056		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	16	.554	.2458	.600	.0834	.031	-.0067	.0064	.0061		
	20.0	20.0	-15	-25	.0	.0	2.98	-5.0	20	.718	.3456	.793	.0791	.020	-.0065	.0068	.0073		

TABLE II.- Continued

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	20.0	20.0	-15	-25	.0	.0	4.01	-5.0	-2	-141	.0994	-144	.0944	.118	.1040	-0.194	.0070
	20.0	20.0	-15	-25	.0	.0	4.01	-5.0	0	-0.79	.0930	-0.79	.0930	.110	.1032	-0.176	.0087
	20.0	20.0	-15	-25	.0	.0	4.01	-5.0	2	-0.19	.0898	-0.16	.0904	.102	.1038	-0.170	.0099
	20.0	20.0	-15	-25	.0	.0	4.01	-5.0	4	.048	.0908	.054	.0873	.092	.1080	-0.182	.0104
	20.0	20.0	-15	-25	.0	.0	4.01	-5.0	8	.178	.1081	.191	.0822	.071	.1099	-0.165	.0114
	20.0	20.0	-15	-25	.0	.0	4.01	-5.0	12	.308	.1510	.333	.0836	.068	.1078	-0.120	.0129
	20.0	20.0	-15	-25	.0	.0	4.01	-5.0	16	.441	.2139	.483	.0838	.066	.1048	-0.064	.0131
	20.0	20.0	-15	-25	.0	.0	4.01	-3.0	-6	-1.91	.1025	-1.12	.0915	.116	.0589	-0.056	.0137
	20.0	20.0	-15	-25	.0	.0	4.01	-3.0	2	-0.28	.0996	-0.32	.0958	.112	.0510	-0.069	.0157
	20.0	20.0	-15	-25	.0	.0	4.01	-3.0	4	-0.05	.0908	-0.02	.0908	.104	.0578	-0.001	.0174
	20.0	20.0	-15	-25	.0	.0	4.01	-3.0	6	.057	.0881	-0.02	.0882	.097	.0590	-0.082	.0084
	20.0	20.0	-15	-25	.0	.0	4.01	-3.0	8	.057	.0887	.063	.0855	.086	.0614	-0.094	.0085
	20.0	20.0	-15	-25	.0	.0	4.01	-3.0	10	.189	.1092	.202	.0818	.067	.0636	-0.087	.0091
	20.0	20.0	-15	-25	.0	.0	4.01	-3.0	12	.316	.1547	.342	.0854	.071	.0628	-0.053	.0099
	20.0	20.0	-15	-25	.0	.0	4.01	-3.0	14	.489	.1044	.419	.0909	.115	.0022	-0.067	.0042
	20.0	20.0	-15	-25	.0	.0	4.01	-3.0	16	.656	.1136	.098	.0936	.115	.0017	-0.070	.0038
	20.0	20.0	-15	-25	.0	.0	4.01	-3.0	18	.823	.1072	.072	.0924	.107	.0031	-0.087	.0044
	20.0	20.0	-15	-25	.0	.0	4.01	-3.0	20	.006	.0894	.003	.0895	.095	.0044	-0.088	.0045
	20.0	20.0	-15	-25	.0	.0	4.01	-3.0	22	.056	.0913	.063	.0871	.084	.0043	-0.078	.0044
	20.0	20.0	-15	-25	.0	.0	4.01	-3.0	24	.185	.1113	.199	.0844	.069	.0051	-0.065	.0042
	20.0	20.0	-15	-25	.0	.0	4.01	-3.0	26	.309	.1548	.334	.0871	.075	.0065	-0.072	.0043
	20.0	20.0	-15	-25	.0	.0	4.01	-3.0	28	.451	.2230	.495	.0898	.072	.0065	-0.090	.0051
	20.0	20.0	-15	-25	.0	.0	4.01	-3.0	30	.600	.3175	.673	.0929	.060	.0069	-0.103	.0057
	20.0	20.0	-20	-20	.0	.0	2.98	-6	-240	.1193	-248	.1022	.151	.0056	-0.021	-0.010	
	20.0	20.0	-20	-20	.0	.0	2.98	-6	-2	-1.64	.1106	-1.68	.1048	.147	.0561	-0.020	-0.009
	20.0	20.0	-20	-20	.0	.0	2.98	-6	0	.094	.1035	.094	.1035	.138	.0046	-0.015	-0.008
	20.0	20.0	-20	-20	.0	.0	2.98	-6	2	-0.17	.1006	-0.13	.1011	.120	.0032	-0.010	-0.005
	20.0	20.0	-20	-20	.0	.0	2.98	-6	4	.063	.1017	.070	.0971	.097	.0028	-0.008	-0.005
	20.0	20.0	-20	-20	.0	.0	2.98	-6	6	.227	.1225	.241	.0897	.062	.0016	-0.007	-0.005
	20.0	20.0	-20	-20	.0	.0	2.98	-6	8	.398	.1707	.425	.0842	.038	.0024	-0.010	-0.006
	20.0	20.0	-20	-20	.0	.0	2.98	-6	10	.552	.2416	.597	.0800	.033	.0020	-0.013	-0.007
	20.0	20.0	-20	-20	.0	.0	2.98	-6	12	.698	.3313	.769	.0724	.023	.0022	-0.012	-0.005
	20.0	20.0	-20	-20	.0	.0	4.01	-4	-189	.1032	-196	.0897	.112	.0038	-0.013	-0.002	
	20.0	20.0	-20	-20	.0	.0	4.01	-4	-2	-1.33	.0969	-1.36	.0922	.113	.0038	-0.007	-0.003
	20.0	20.0	-20	-20	.0	.0	4.01	-4	0	.069	.0897	.069	.0897	.106	.0038	-0.002	-0.001
	20.0	20.0	-20	-20	.0	.0	4.01	-4	2	-0.03	.078	.078	.0878	.093	.0030	-0.006	-0.001
	20.0	20.0	-20	-20	.0	.0	4.01	-4	4	.099	.1095	.069	.0852	.106	.0013	-0.007	-0.005
	20.0	20.0	-20	-20	.0	.0	4.01	-4	6	.189	.1102	.202	.0898	.068	.0018	-0.007	-0.008
	20.0	20.0	-20	-20	.0	.0	4.01	-4	8	.320	.1557	.348	.0857	.076	.0017	-0.006	-0.009
	20.0	20.0	-20	-20	.0	.0	4.01	-4	10	.459	.2232	.503	.0879	.076	.0018	-0.004	-0.013
	20.0	20.0	-20	-20	.0	.0	4.01	-4	12	.609	.3168	.681	.0893	.061	.0038	-0.000	-0.021
	20.0	20.0	-20	-20	-3.0	.0	2.98	-5.0	-4	-252	.1232	-260	.1053	.162	.0946	-0.213	.0006
	20.0	20.0	-20	-20	-3.0	.0	2.98	-5.0	-2	-182	.1120	-186	.1055	.159	.0935	-0.194	.0016
	20.0	20.0	-20	-20	-3.0	.0	2.98	-5.0	0	-1.08	.1040	-1.08	.1040	.147	.0910	-0.169	.0021
	20.0	20.0	-20	-20	-3.0	.0	2.98	-5.0	2	-0.34	.0996	-0.30	.0930	.107	.0030	-0.006	-0.001
	20.0	20.0	-20	-20	-3.0	.0	2.98	-5.0	4	.047	.1003	.054	.0968	.111	.0116	-0.125	.0028
	20.0	20.0	-20	-20	-3.0	.0	2.98	-5.0	6	.209	.1176	.223	.0874	.078	.0940	-0.104	.0032
	20.0	20.0	-20	-20	-3.0	.0	2.98	-5.0	8	.424	.1217	.251	.1044	.157	.0489	-0.081	-0.017
	20.0	20.0	-20	-20	-3.0	.0	2.98	-5.0	10	.637	.1122	.477	.1060	.152	.0479	-0.072	-0.013
	20.0	20.0	-20	-20	-3.0	.0	2.98	-5.0	12	.847	.1045	.141	.1045	.139	.0469	-0.059	-0.008
	20.0	20.0	-20	-20	-3.0	.0	2.98	-5.0	14	.025	.1099	.099	.022	.107	.024	.0054	-0.02
	20.0	20.0	-20	-20	-3.0	.0	2.98	-5.0	16	.263	.1040	.164	.1040	.164	.0447	-0.023	-0.004
	20.0	20.0	-20	-20	-3.0	.0	2.98	-5.0	18	.472	.1201	.237	.0879	.068	.0470	-0.009	.0004
	20.0	20.0	-20	-20	-3.0	.0	2.98	-5.0	20	.705	.3324	.776	.0711	.030	.0538	-0.005	.0045
	20.0	20.0	-20	-20	-3.0	.0	2.98	-5.0	22	.926	.1196	.244	.1028	.159	.0175	-0.128	-0.052
	20.0	20.0	-20	-20	-3.0	.0	2.98	-5.0	24	.163	.1104	.166	.1046	.153	.0174	-0.125	-0.050
	20.0	20.0	-20	-20	-3.0	.0	2.98	-5.0	26	.216	.1011	.016	.0111	.143	.0169	-0.123	-0.049
	20.0	20.0	-20	-20	-3.0	.0	2.98	-5.0	28	.323	.1227	.238	.0904	.068	.0158	-0.107	-0.043
	20.0	20.0	-20	-20	-3.0	.0	2.98	-5.0	30	.429	.1709	.422	.0850	.043	.0135	-0.090	-0.038
	20.0	20.0	-20	-20	-3.0	.0	2.98	-5.0	32	.550	.2417	.595	.0807	.036	.0114	-0.073	-0.032
	20.0	20.0	-20	-20	-3.0	.0	2.98	-5.0	34	.711	.3391	.784	.0753	.022	.0060	-0.041	-0.019
	20.0	20.0	-20	-20	-6.0	.0	2.98	-3.0	20	.708	.3349	.780	.0724	.031	.0466	-0.048	.0026
	20.0	20.0	-20	-20	-6.0	.0	2.98	-3.0	22	.1159	.260	.1065	.141	.0488	-0.051	-0.052	
	20.0	20.0	-20	-20	-6.0	.0	2.98	-3.0	24	.162	.1149	.166	.1091	.155	.0488	-0.039	.0039
	20.0	20.0	-20	-20	-6.0	.0	2.98	-3.0	26	.202	.1081	.091	.1021	.146	.0408	-0.021	.0102
	20.0	20.0	-20	-20	-6.0	.0	2.98	-3.0	28	.013	.1056	.096	.1056	.146	.0408	-0.021	.0101
	20.0	20.0	-20	-20	-6.0	.0	2.98	-3.0	30	.161	.1061	.070	.1014	.106	.0392	-0.253	.0097
	20.0	20.0	-20	-20	-6.0	.0	2.98	-3.0	32	.233	.1281	.248	.0944	.070	.0363	-0.233	.0089
	20.0	20.0	-20	-20	-6.0	.0	2.98	-3.0	34	.401	.1763	.429	.0889	.045	.0310	-0.201	.0081
	20.0	20.0	-20	-20	-6.0	.0	2.98	-3.0	36	.555	.2481	.602	.0854	.040	.0253	-0.162	.0066
	20.0	20.0	-20	-20	-6.0	.0	2.98	-3.0	38	.722	.3452	.777	.0772	.025	.0153	-0.099	.0043

TABLE II - Continued

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	20.0	20.0	-30	-30	.0	.0	2.98	.0	-4	-268	.1834	-279	.1443	.214	.0049	-0.0023	-0.0006
	20.0	20.0	-30	-30	.0	.0	2.98	.0	-2	-208	.1522	-208	.1450	.210	.0044	-0.0022	-0.0007
	20.0	20.0	-30	-30	.0	.0	2.98	.0	0	-131	.1445	-131	.1445	.201	.0029	-0.0018	-0.0007
	20.0	20.0	-30	-30	.0	.0	2.98	.0	2	-555	.1386	-550	.1406	.184	.0019	-0.0011	-0.0007
	20.0	20.0	-30	-30	.0	.0	2.98	.0	4	624	.1389	+033	.1349	.161	.0021	-0.0014	-0.0005
	20.0	20.0	-30	-30	.0	.0	2.98	.0	8	+185	.1389	+205	.1329	.257	.0019	-0.0012	-0.0005
	20.0	20.0	-30	-30	.0	.0	2.98	.0	12	+319	.1294	+311	.1156	.104	.0011	-0.0007	-0.0005
	20.0	20.0	-30	-30	.0	.0	2.98	.0	16	+501	.2403	+553	.1120	.100	.0006	-0.0008	-0.0006
	20.0	20.0	-30	-30	.0	.0	2.98	.0	20	+650	.3549	+732	.1110	.100	.0007	-0.0012	-0.0003
	20.0	20.0	-30	-30	.0	.0	4.01	.0	-4	-220	.1374	-229	.1217	.161	.0038	-0.0005	.0002
	20.0	20.0	-30	-30	.0	.0	4.01	.0	-2	-161	.1293	-166	.1236	.157	.0038	-0.0002	-0.0003
	20.0	20.0	-30	-30	.0	.0	4.01	.0	0	+102	.1231	-102	.1231	.154	.0033	-0.0009	-0.0003
	20.0	20.0	-30	-30	.0	.0	4.01	.0	2	+043	.1193	-039	.1207	.145	.0024	-0.0011	-0.0004
	20.0	20.0	-30	-30	.0	.0	4.01	.0	4	+21	.1191	.030	.1173	.134	.0025	-0.0005	-0.0007
	20.0	20.0	-30	-30	.0	.0	4.01	.0	8	+144	.1344	+163	.1128	.118	.0012	-0.0006	-0.0008
	20.0	20.0	-30	-30	.0	.0	4.01	.0	12	+273	.1785	+304	.1178	.126	.0006	-0.0003	-0.0012
	20.0	20.0	-30	-30	.0	.0	4.01	.0	16	+394	.2417	+445	.1237	.132	.0009	-0.0007	-0.0014
	20.0	20.0	-30	-30	.0	.0	4.01	.0	20	+534	.3335	+615	.1308	.135	.0017	-0.0005	-0.0021
	20.0	20.0	-40	-40	.0	.0	4.01	.0	-4	+250	.1926	-262	.1747	.207	.0018	.0005	.0002
	20.0	20.0	-40	-40	.0	.0	4.01	.0	-2	-190	.1795	-194	.1728	.200	.0027	.0003	.0001
	20.0	20.0	-40	-40	.0	.0	4.01	.0	0	+136	.1716	-136	.1716	.191	.0023	.0016	.0002
	20.0	20.0	-40	-40	.0	.0	4.01	.0	2	+075	.1662	-069	.1687	.179	.0019	.0012	-0.0004
	20.0	20.0	-40	-40	.0	.0	4.01	.0	4	+014	.1663	-003	.1669	.174	.0014	.0011	-0.0008
	20.0	20.0	-40	-40	.0	.0	4.01	.0	8	+104	.1793	+130	.1628	.159	.0005	.0002	-0.0009
	20.0	20.0	-40	-40	.0	.0	4.01	.0	12	+231	.2207	+272	.1678	.160	-0.0002	-0.0001	-0.0011
	20.0	20.0	-40	-40	.0	.0	4.01	.0	16	+352	.2903	+419	.1819	.176	-0.0058	-0.0046	-0.0020
	20.0	20.0	-40	-40	.0	.0	4.01	.0	20	+480	.3813	+501	.1941	.185	-0.0002	-0.0011	-0.0026
	20.0	20.0	-45	-45	.0	.0	2.98	.0	-4	-297	.2242	-312	.2030	.257	.0048	-0.0021	-0.0006
	20.0	20.0	-45	-45	.0	.0	2.98	.0	-2	-232	.2317	-239	.2035	.254	.0037	-0.0017	-0.0007
	20.0	20.0	-45	-45	.0	.0	2.98	.0	0	+165	.2004	-165	.2004	.245	.0028	-0.0013	-0.0008
	20.0	20.0	-45	-45	.0	.0	2.98	.0	2	+091	.1926	-084	.1957	.228	.0022	-0.0010	-0.0007
	20.0	20.0	-45	-45	.0	.0	2.98	.0	4	+012	.1882	-000	.1886	.206	.0014	-0.0010	-0.0007
	20.0	20.0	-45	-45	.0	.0	2.98	.0	8	+146	.1952	-177	.1952	.205	.0007	-0.0005	-0.0007
	20.0	20.0	-45	-45	.0	.0	2.98	.0	12	+349	.2340	+351	.1644	.146	.0003	-0.0007	-0.0007
	20.0	20.0	-45	-45	.0	.0	2.98	.0	16	+455	.2978	+520	.1607	.139	-0.0003	-0.0010	-0.0008
	20.0	20.0	-45	-45	.0	.0	2.98	.0	20	+597	.3919	+695	.1639	.151	.0113	-0.0072	-0.0007
	30.0	30.0	0	0	.0	.0	2.98	-540	-4	+170	.1302	-178	.1180	.042	.1273	-0.0418	.0088
	30.0	30.0	0	0	.0	.0	2.98	-540	-2	-088	.1218	-092	.1186	.029	.1253	-0.0393	.0096
	30.0	30.0	0	0	.0	.0	2.98	-540	0	+021	.1189	-021	.1189	.012	.1222	-0.0365	.0098
	30.0	30.0	0	0	.0	.0	2.98	-540	2	+063	.1209	-067	.1186	-006	.1215	-0.0339	.0100
	30.0	30.0	0	0	.0	.0	2.98	-540	4	+143	.1283	-152	.1180	-028	.1227	-0.0325	.0099
	30.0	30.0	0	0	.0	.0	2.98	-540	8	+302	.1985	-322	.1148	-062	.1240	-0.0293	.0106
	30.0	30.0	0	0	.0	.0	2.98	-540	12	+470	.2156	-505	.1530	-098	.1244	-0.0264	.0122
	30.0	30.0	0	0	.0	.0	2.98	-540	16	+642	.2974	-699	.1087	-135	.1184	-0.0207	.0132
	30.0	30.0	0	0	.0	.0	2.98	-540	20	+826	.3997	-913	.0931	-193	.1075	-0.0174	.0111
	30.0	30.0	0	0	.0	.0	2.98	-540	-2	+145	.1280	-153	.1178	-044	.0778	-0.0248	.0047
	30.0	30.0	0	0	.0	.0	2.98	-540	0	+007	.1186	-007	.1186	-013	.0726	-0.0225	.0050
	30.0	30.0	0	0	.0	.0	2.98	-540	2	+094	.1221	-086	.1191	-007	.0717	-0.0210	.0053
	30.0	30.0	0	0	.0	.0	2.98	-540	4	+161	.1298	-169	.1183	-027	.0714	-0.0194	.0056
	30.0	30.0	0	0	.0	.0	2.98	-540	8	+322	.1619	-341	.1154	-067	.0707	-0.0162	.0059
	30.0	30.0	0	0	.0	.0	2.98	-540	12	+492	.2217	-527	.1146	-102	.0689	-0.0140	.0064
	30.0	30.0	0	0	.0	.0	2.98	-540	16	+852	.2979	-709	.1064	-139	.0647	-0.0077	.0062
	30.0	30.0	0	0	.0	.0	2.98	-540	20	+833	.4055	-922	.0959	-186	.0588	-0.0035	.0065
	30.0	30.0	0	0	.0	.0	2.98	-540	-4	+138	.1218	-146	.1118	-039	.0669	-0.0024	.0008
	30.0	30.0	0	0	.0	.0	2.98	-540	0	+013	.1166	-013	.1166	-011	.0045	-0.0016	.0008
	30.0	30.0	0	0	.0	.0	2.98	-540	2	+094	.1218	-096	.1185	-009	.0047	-0.0016	-0.0009
	30.0	30.0	0	0	.0	.0	2.98	-540	4	+171	.1310	-180	.1187	-032	.0028	-0.0007	.0010
	30.0	30.0	0	0	.0	.0	2.98	-540	8	+334	.1663	-353	.1182	-070	.0031	-0.0010	-0.0011
	30.0	30.0	0	0	.0	.0	2.98	-540	12	+226	.542	-542	.1156	-106	.0028	-0.0010	.0014
	30.0	30.0	0	0	.0	.0	2.98	-540	16	+876	.3035	-744	.1022	-145	.0038	-0.0013	.0013
	30.0	30.0	0	0	.0	.0	2.98	-540	20	+846	.4082	-930	.1036	-131	.0140	-0.0093	.0004
	30.0	30.0	0	0	.0	.0	2.98	-540	-4	+143	.1250	-151	.1147	-040	.0147	-0.0053	-0.0027
	30.0	30.0	0	0	.0	.0	2.98	-540	0	+010	.1182	-010	.1182	-012	.0180	-0.0054	-0.0028
	30.0	30.0	0	0	.0	.0	2.98	-540	2	+086	.1218	-091	.1187	-008	.0163	-0.0044	-0.0027
	30.0	30.0	0	0	.0	.0	2.98	-540	4	+169	.1315	-178	.1194	-029	.0162	-0.0042	-0.0029
	30.0	30.0	0	0	.0	.0	2.98	-540	8	+333	.1668	-353	.1187	-070	.0169	-0.0033	-0.0030
	30.0	30.0	0	0	.0	.0	2.98	-540	12	+503	.2301	-540	.1204	-106	.0161	-0.0021	-0.0031
	30.0	30.0	0	0	.0	.0	2.98	-540	16	+670	.3062	-728	.1095	-140	-0.0217	-0.0051	-0.0043
	30.0	30.0	0	0	.0	.0	2.98	-540	20	+849	.4140	-939	.0985	-180	-0.0244	-0.0054	-0.0047

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TABLE II.- Continued

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	30.0	30.0	0	0	0	0	4.01	-5.0	-4	+132	+1157	-140	+1061	+029	+1189	+0328	+0074
	30.0	30.0	0	0	0	0	4.01	-5.0	-2	+064	+1091	+067	+1068	+021	+1204	+0328	+0085
	30.0	30.0	0	0	0	0	4.01	0	-001	+1067	-001	+1067	+009	+1215	+0326	+0092	
	30.0	30.0	0	0	0	0	4.01	-5.0	2	+064	+1086	+068	+1063	-003	+1248	+0333	+0097
	30.0	30.0	0	0	0	0	4.01	0	4	+129	+1141	+137	+1048	+018	+1287	+0343	+0105
	30.0	30.0	0	0	0	0	4.01	-5.0	8	+257	+1430	+275	+1057	+046	+1317	+0332	+0121
	30.0	30.0	0	0	0	0	4.01	-5.0	12	+395	+1905	+426	+1041	+076	+1285	+0382	+0121
	30.0	30.0	0	0	0	0	4.01	-5.0	16	+554	+2642	+605	+1012	+118	+1222	+0206	+0107
	30.0	30.0	0	0	0	0	4.01	0	20	+731	+3710	+813	+0985	+147	+1248	+0153	+0102
	30.0	30.0	0	0	0	0	4.01	-3.0	-4	+134	+1154	+132	+1058	+055	+1070	+0207	+0044
	30.0	30.0	0	0	0	0	4.01	0	2	+059	+1074	+058	+1052	+018	+0722	+0207	+0050
	30.0	30.0	0	0	0	0	4.01	-3.0	-4	+003	+1063	+005	+1063	+021	+0732	+0210	+0053
	30.0	30.0	0	0	0	0	4.01	-3.0	2	+063	+1080	+067	+1057	+007	+0751	+0219	+0058
	30.0	30.0	0	0	0	0	4.01	-3.0	4	+128	+1152	+136	+1059	+021	+0780	+0226	+0043
	30.0	30.0	0	0	0	0	4.01	-3.0	8	+257	+1442	+274	+1070	+045	+0805	+0223	+0071
	30.0	30.0	0	0	0	0	4.01	-3.0	12	+405	+1963	+437	+1077	+073	+0789	+0179	+0072
	30.0	30.0	0	0	0	0	4.01	-3.0	16	+564	+2701	+617	+1039	+117	+1078	+0102	+0057
	30.0	30.0	0	0	0	0	4.01	-3.0	20	+741	+3779	+825	+1015	+175	+0714	+0076	+0051
	30.0	30.0	0	0	0	0	4.01	0	-4	+121	+1141	+129	+1053	+027	+0031	+0004	+0001
	30.0	30.0	0	0	0	0	4.01	-2	+056	+1082	+060	+1067	+018	+0031	+0003	+0002	
	30.0	30.0	0	0	0	0	4.01	0	0	+003	+1110	+008	+0039	+005	+0005	+0000	+0000
	30.0	30.0	0	0	0	0	4.01	0	2	+063	+1080	+067	+1057	+007	+0751	+0219	+0058
	30.0	30.0	0	0	0	0	4.01	-3.0	4	+128	+1152	+136	+1059	+021	+0780	+0226	+0043
	30.0	30.0	0	0	0	0	4.01	-3.0	8	+257	+1442	+274	+1070	+045	+0805	+0223	+0071
	30.0	30.0	0	0	0	0	4.01	-3.0	12	+405	+1963	+437	+1077	+073	+0789	+0179	+0072
	30.0	30.0	0	0	0	0	4.01	-3.0	16	+564	+2701	+617	+1039	+117	+1078	+0102	+0057
	30.0	30.0	0	0	0	0	4.01	-3.0	20	+741	+3779	+825	+1015	+175	+0714	+0076	+0051
	30.0	30.0	0	0	0	0	4.01	0	-4	+121	+1141	+129	+1053	+027	+0031	+0004	+0001
	30.0	30.0	0	0	0	0	4.01	-2	+056	+1082	+060	+1067	+018	+0031	+0003	+0002	
	30.0	30.0	0	0	0	0	4.01	0	0	+003	+1110	+008	+0039	+005	+0005	+0000	+0000
	30.0	30.0	0	0	0	0	4.01	0	2	+063	+1080	+067	+1057	+007	+0751	+0219	+0058
	30.0	30.0	0	0	0	0	4.01	-3.0	4	+128	+1152	+136	+1059	+021	+0780	+0226	+0043
	30.0	30.0	0	0	0	0	4.01	-3.0	8	+257	+1442	+274	+1070	+045	+0805	+0223	+0071
	30.0	30.0	0	0	0	0	4.01	-3.0	12	+405	+1963	+437	+1077	+073	+0789	+0179	+0072
	30.0	30.0	0	0	0	0	4.01	-3.0	16	+564	+2701	+617	+1039	+117	+1078	+0102	+0057
	30.0	30.0	0	0	0	0	4.01	-3.0	20	+741	+3779	+825	+1015	+175	+0714	+0076	+0051
	30.0	30.0	0	0	0	0	4.01	0	-4	+121	+1141	+129	+1053	+027	+0031	+0004	+0001
	30.0	30.0	0	0	0	0	4.01	-2	+056	+1082	+060	+1067	+018	+0031	+0003	+0002	
	30.0	30.0	0	0	0	0	4.01	-3.0	4	+128	+1152	+136	+1059	+021	+0780	+0226	+0043
	30.0	30.0	0	0	0	0	4.01	-3.0	8	+257	+1442	+274	+1070	+045	+0805	+0223	+0071
	30.0	30.0	0	0	0	0	4.01	-3.0	12	+405	+1963	+437	+1077	+073	+0789	+0179	+0072
	30.0	30.0	0	0	0	0	4.01	-3.0	16	+564	+2701	+617	+1039	+117	+1078	+0102	+0057
	30.0	30.0	0	0	0	0	4.01	-3.0	20	+741	+3779	+825	+1015	+175	+0714	+0076	+0051
	30.0	30.0	0	0	0	0	4.01	0	-4	+121	+1141	+129	+1053	+027	+0031	+0004	+0001
	30.0	30.0	0	0	0	0	4.01	-2	+056	+1082	+060	+1067	+018	+0031	+0003	+0002	
	30.0	30.0	0	0	0	0	4.01	-3.0	4	+128	+1152	+136	+1059	+021	+0780	+0226	+0043
	30.0	30.0	0	0	0	0	4.01	-3.0	8	+257	+1442	+274	+1070	+045	+0805	+0223	+0071
	30.0	30.0	0	0	0	0	4.01	-3.0	12	+405	+1963	+437	+1077	+073	+0789	+0179	+0072
	30.0	30.0	0	0	0	0	4.01	-3.0	16	+564	+2701	+617	+1039	+117	+1078	+0102	+0057
	30.0	30.0	0	0	0	0	4.01	-3.0	20	+741	+3779	+825	+1015	+175	+0714	+0076	+0051
	30.0	30.0	0	0	0	0	4.01	0	-4	+121	+1141	+129	+1053	+027	+0031	+0004	+0001
	30.0	30.0	0	0	0	0	4.01	-2	+056	+1082	+060	+1067	+018	+0031	+0003	+0002	
	30.0	30.0	0	0	0	0	4.01	-3.0	4	+128	+1152	+136	+1059	+021	+0780	+0226	+0043
	30.0	30.0	0	0	0	0	4.01	-3.0	8	+257	+1442	+274	+1070	+045	+0805	+0223	+0071
	30.0	30.0	0	0	0	0	4.01	-3.0	12	+405	+1963	+437	+1077	+073	+0789	+0179	+0072
	30.0	30.0	0	0	0	0	4.01	-3.0	16	+564	+2701	+617	+1039	+117	+1078	+0102	+0057
	30.0	30.0	0	0	0	0	4.01	-3.0	20	+741	+3779	+825	+1015	+175	+0714	+0076	+0051
	30.0	30.0	0	0	0	0	4.01	0	-4	+121	+1141	+129	+1053	+027	+0031	+0004	+0001
	30.0	30.0	0	0	0	0	4.01	-2	+056	+1082	+060	+1067	+018	+0031	+0003	+0002	
	30.0	30.0	0	0	0	0	4.01	-3.0	4	+128	+1152	+136	+1059	+021	+0780	+0226	+0043
	30.0	30.0	0	0	0	0	4.01	-3.0	8	+257	+1442	+274	+1070	+045	+0805	+0223	+0071
	30.0	30.0	0	0	0	0	4.01	-3.0	12	+405	+1963	+437	+1077	+073	+0789	+0179	+0072
	30.0	30.0	0	0	0	0	4.01	-3.0	16	+564	+2701	+617	+1039	+117	+1078	+0102	+0057
	30.0	30.0	0	0	0	0	4.01	-3.0	20	+741	+3779	+825	+1015	+175	+0714	+0076	+0051
	30.0	30.0	0	0	0	0	4.01	0	-4	+121	+1141	+129	+1053	+027	+0031	+0004	+0001
	30.0	30.0	0	0	0	0	4.01	-2	+056	+1082	+060	+1067	+018	+0031	+0003	+0002	
	30.0	30.0	0	0	0	0	4.01	-3.0	4	+128	+1152	+136	+1059	+021	+0780	+0226	+0043
	30.0	30.0	0	0	0	0	4.01	-3.0	8	+257	+1442	+274	+1070	+045	+0805	+0223	+0071
	30.0	30.0	0	0	0	0	4.01	-3.0	12	+405	+1963	+437	+1077	+073	+0789	+0179	+0072
	30.0	30.0	0	0	0	0	4.01	-3.0	16	+564	+2701	+617	+1039	+117	+1078	+0102	+0057
	30.0	30.0	0	0	0	0	4.01	-3.0	20	+741	+3779	+825	+1015	+175	+0714	+0076	+0051
	30.0	30.0	0	0	0	0	4.01	0	-4	+121	+1141	+129	+1053	+027	+0031	+0004	+0001
	30.0	30.0	0	0	0	0	4.01	-2	+056	+1082	+060	+1067	+018	+0031	+0003	+0002	
	30.0	30.0	0	0	0	0	4.01	-3.0	4	+128	+1152	+136	+1059	+021	+0780	+0226	+0043
	30.0	30.0	0	0	0	0	4.01	-3.0	8	+257	+1442	+274	+1070	+045	+0805	+0223	+0071
	30.0	30.0	0	0	0	0	4.01	-3.0	12	+405	+1963	+437	+1077	+073	+0789	+0179	+0072
	30.0	30.0	0	0	0	0	4.01	-3.0	16	+564	+2701	+617	+1039	+117	+1078	+0102	+0057
	30.0	30.0	0	0	0</td												

TABLE II. - Continued

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	30.0	30.0	0	0	-6.0	0	2.98	-5.0	-4	-1.262	-1.158	.1154	.040	.0728	-.0062	.0031	
	30.0	30.0	0	0	-6.0	0	2.98	-5.0	-2	-1.181	-1.155	.025	.0724	-.0055	.0019		
	30.0	30.0	0	0	-6.0	0	2.98	-5.0	0	.000	.1158	.009	.0715	-.0040	.0014		
	30.0	30.0	0	0	-6.0	0	2.98	-5.0	2	.080	.1188	.084	.1159	-.011	.0233	-.0009	
	30.0	30.0	0	0	-6.0	0	2.98	-5.0	4	.164	.1265	.173	.1147	-.033	.0778	-.0032	
	30.0	30.0	0	0	-6.0	0	2.98	-5.0	8	.319	.1568	.338	.1108	-.071	.0824	-.0035	
	30.0	30.0	0	0	-6.0	0	2.98	-5.0	12	.488	.2168	.523	.1105	-.107	.0872	-.0031	
	30.0	30.0	0	0	-6.0	0	2.98	-5.0	16	.656	.2990	.713	.1065	-.146	.0866	-.0009	
	30.0	30.0	0	0	-6.0	0	2.98	-5.0	20	.836	.4032	.923	.0929	-.195	.0934	.0003	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	-4	-.148	.1275	-.157	.1168	.041	.0222	.0097	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	-2	-.064	.1224	-.069	.1200	.025	.0227	.0096	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	0	.011	.1204	.011	.1204	.009	.0228	.0100	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	2	.085	.1234	.089	.1203	-.010	.0255	.0099	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	4	.161	.1307	.170	.1191	-.032	.0288	.0095	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	8	.326	.1642	.345	.1156	-.071	.0311	.0099	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	12	.499	.345	.514	.1156	-.109	.0315	.0014	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	16	.665	.3051	.723	.1099	-.146	.0344	.0167	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	20	.846	.4108	.936	.0964	-.187	.0452	.0058	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	24	-.147	.1282	-.154	.1176	.040	-.0485	.0337	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	28	-.062	.1236	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	32	.014	.1226	.014	.1226	.008	.0460	.0314	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	36	.092	.1236	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	40	.174	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	44	.254	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	48	.334	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	52	.414	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	56	.494	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	60	.574	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	64	.654	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	68	.734	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	72	.814	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	76	.894	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	80	.974	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	84	.054	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	88	.134	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	92	.214	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	96	.294	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	100	.374	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	104	.454	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	108	.534	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	112	.614	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	116	.694	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	120	.774	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	124	.854	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	128	.934	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	132	.014	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	136	.094	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	140	.174	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	144	.254	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	148	.334	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	152	.414	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	156	.494	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	160	.574	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	164	.654	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	168	.734	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	172	.814	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	176	.894	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	180	.974	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	184	.054	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	188	.134	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	192	.214	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	196	.294	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	0	0	-6.0	0	2.98	-3.0	200	.374	.1226	-.066	.1213	.027	-.0471	.0327	
	30.0	30.0	-5	0	0	0	2.98	0	-4	-.161	.1246	-.170	.1130	.068	.0053	-.0018	
	30.0	30.0	-5	0	0	0	2.98	0	-2	-.093	.1210	-.097	.1176	.061	.0037	-.0014	
	30.0	30.0	-5	0	0	0	2.98	0	0	-.020	.1210	-.097	.1176	.061	.0037	-.0008	
	30.0	30.0	-5	0	0	0	2.98	0	2	.068	.1196	.091	.1176	.074	.0027	-.0009	
	30.0	30.0	-5	0	0	0	2.98	0	4	.140	.1196	.148	.1168	.027	.0010	-.0008	
	30.0	30.0	-5	0	0	0	2.98	0	8	.301	.1159	.220	.1155	-.035	.0010	-.0010	
	30.0	30.0	-5	0	0	0	2.98	0	12	.469	.2129	.503	.1107	-.066	.0005	-.0006	
	30.0	30.0	-5	0	0	0	2.98	0	16	.647	.2297	.702	.1031	-.100	.0004	-.0013	
	30.0	30.0	-5	0	0	0	2.98	0	20	.789	.3874	.874	.0939	-.113	.0022	-.0020	
	30.0	30.0	-5	0	0	0	2.98	0	-4	-.139	.1187	-.147	.1087	.055	.0024	-.0001	
	30.0	30.0	-5	0	0	0	2.98	0	-2	-.074	.1130	-.078	.1103	.046	.0025	-.0002	
	30.0	30.0	-5	0	0	0	2.98	0	0	-.015	.1106	-.015	.1106	.035	.0025	-.0010	
	30.0	30.0	-5	0	0	0	2.98	0	2	.047	.1131	.051	.1114	.021	.0026	-.0008	
	30.0	30.0	-5	0	0	0	2.98	0	4	.109	.1191	.117	.1112	.008	.0018	-.0006	
	30.0	30.0	-5	0	0	0	2.98	0	8	.242	.1463	.260	.1112	-.008	.0005	-.0004	
	30.0	30.0	-5	0	0	0	2.98	0	12	.388	.1960	.420	.1110	-.029	-.0003	-.0009	
	30.0	30.0	-5	0	0	0	2.98	0	16	.541	.2639	.592	.1046</				

TABLE II - Continued

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$ deg	$\delta_{b,l}$ deg	$\delta_{h,L}$ deg	$\delta_{h,R}$ deg	$\delta_{v,u}$ deg	$\delta_{v,l}$ deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	30.0	30.0	-10	-10	.0	.0	4.01	.0	-4	-153	.1261	-1.162	.1151	.076	.0027	-0.004	.0002
	30.0	30.0	-10	-10	.0	.0	4.01	.0	-2	-109	.1210	-1.102	.1175	.073	.0021	-0.002	.0003
	30.0	30.0	-10	-10	.0	.0	4.01	.0	0	-153	.1158	-1.153	.1158	.061	.0118	.0010	.0002
	30.0	30.0	-10	-10	.0	.0	4.01	.0	4	-109	.1202	-1.111	.1151	.057	.0119	.0009	-0.0002
	30.0	30.0	-10	-10	.0	.0	4.01	.0	8	-220	.1460	-1.151	.1140	.019	-0.007	.0005	-0.0008
	30.0	30.0	-10	-10	.0	.0	4.01	.0	12	-358	.1923	-1.390	.1136	.008	.0012	.0007	-0.0009
	30.0	30.0	-10	-10	.0	.0	4.01	.0	16	.511	.2581	-1.072	.1016	.001	.0014	.0014	-0.0009
	30.0	30.0	-10	-10	.0	.0	4.01	.0	20	.677	.3555	-1.758	.1023	-.059	.0028	.0006	-0.0012
	30.0	30.0	-20	-20	.0	.0	2.98	.0	-4	-235	.1618	-1.245	.1450	.165	.0059	-0.0031	-0.0004
	30.0	30.0	-20	-20	.0	.0	2.98	.0	-2	-161	.1536	-1.171	.1477	.160	.0033	-0.0025	-0.0006
	30.0	30.0	-20	-20	.0	.0	2.98	.0	0	-109	.1476	-1.094	.1476	.150	.0028	-0.0019	-0.0005
	30.0	30.0	-20	-20	.0	.0	2.98	.0	2	-0.25	.1449	-0.020	.1457	.134	.0019	-0.0014	-0.0005
	30.0	30.0	-20	-20	.0	.0	2.98	.0	4	.054	.1458	.064	.1416	.110	.0005	-0.0008	-0.0005
	30.0	30.0	-20	-20	.0	.0	2.98	.0	8	.218	.1658	.239	.1337	.071	-0.0007	-0.0006	
	30.0	30.0	-20	-20	.0	.0	2.98	.0	12	.388	.2108	.422	.1258	.043	.0005	.0011	-0.0003
	30.0	30.0	-20	-20	.0	.0	2.98	.0	16	.534	.2804	.591	.1221	.041	.0124	.0092	.0008
	30.0	30.0	-20	-20	.0	.0	2.98	.0	20	.678	.3645	.762	.1105	.041	.0006	-0.0014	-0.0004
	30.0	30.0	-20	-20	.0	.0	4.01	.0	-4	-185	.1472	-1.185	.1329	.125	.0022	.0000	.0004
	30.0	30.0	-20	-20	.0	.0	4.01	.0	-2	-127	.1402	-1.127	.1356	.123	.0022	.0002	.0002
	30.0	30.0	-20	-20	.0	.0	4.01	.0	0	-109	.1355	-1.066	.1355	.115	.0031	.0013	.0004
	30.0	30.0	-20	-20	.0	.0	4.01	.0	2	-0.07	.1331	-.003	.1333	.100	.0014	.0019	.0001
	30.0	30.0	-20	-20	.0	.0	4.01	.0	4	.047	.1350	.057	.1314	.091	.0014	-0.0003	
	30.0	30.0	-20	-20	.0	.0	4.01	.0	8	.176	.1546	.196	.1285	.070	-0.0003	.0010	-0.0007
	30.0	30.0	-20	-20	.0	.0	4.01	.0	12	.308	.1988	.342	.1302	.073	-0.0004	.0012	-0.0007
	30.0	30.0	-20	-20	.0	.0	4.01	.0	16	.441	.2599	.496	.1281	.068	-0.0097	.0075	-0.0018
	30.0	30.0	-20	-20	.0	.0	4.01	.0	20	.592	.3519	.680	.1268	.047	-0.0072	.0065	-0.002
	30.0	30.0	-30	-30	.0	.0	2.98	.0	-4	-265	.2035	-1.279	.1845	.224	.0042	-0.0018	.0003
	30.0	30.0	-30	-30	.0	.0	2.98	.0	-2	-127	.1936	-1.202	.1884	.216	.0025	-0.0011	-0.0017
	30.0	30.0	-30	-30	.0	.0	2.98	.0	0	-109	.1855	-1.185	.1855	.1209	.0011	-0.0010	.0008
	30.0	30.0	-30	-30	.0	.0	2.98	.0	2	-0.06	.1810	-1.064	.1830	.171	.0003	-0.0003	-0.0007
	30.0	30.0	-30	-30	.0	.0	2.98	.0	4	.021	.1801	.033	.1782	.147	-0.0002	.0003	-0.0008
	30.0	30.0	-30	-30	.0	.0	2.98	.0	8	.180	.1938	.206	.1642	.129	.0001	.0001	-0.0004
	30.0	30.0	-30	-30	.0	.0	2.98	.0	12	.341	.2255	.382	.1563	.103	-0.0003	-0.0004	-0.0008
	30.0	30.0	-30	-30	.0	.0	2.98	.0	16	.466	.2964	.530	.1563	.114	-0.0005	-0.0003	.0006
	30.0	30.0	-30	-30	.0	.0	2.98	.0	20	.618	.3788	.710	.1444	.112	.0001	-0.0008	-0.0004
	30.0	30.0	-30	-30	.0	.0	4.01	.0	-4	-225	.1855	-1.237	.1693	.178	.0030	-0.0008	.0001
	30.0	30.0	-30	-30	.0	.0	4.01	.0	-2	-163	.1762	-1.169	.1704	.171	.0044	-0.0011	-0.0007
	30.0	30.0	-30	-30	.0	.0	4.01	.0	0	-108	.1697	-1.108	.1697	.164	.0030	.0001	-0.0006
	30.0	30.0	-30	-30	.0	.0	4.01	.0	2	-0.06	.1668	-.042	.1684	.154	.0021	.0005	.0010
	30.0	30.0	-30	-30	.0	.0	4.01	.0	4	.015	.1676	.027	.1661	.144	.0021	-0.0001	-0.0012
	30.0	30.0	-30	-30	.0	.0	4.01	.0	8	.136	.1827	.162	.1616	.125	.0008	.0004	-0.0016
	30.0	30.0	-30	-30	.0	.0	4.01	.0	12	.259	.2229	.299	.1642	.127	.0001	-0.0001	-0.0018
	30.0	30.0	-30	-30	.0	.0	4.01	.0	16	.375	.2839	.458	.1695	.143	.0002	.0008	.0020
	30.0	30.0	-30	-30	.0	.0	4.01	.0	20	.519	.3735	.616	.1733	.136	.0015	.0003	-0.0028
	30.0	45.0	0	0	.0	.0	2.98	.0	-4	-133	.1478	-1.1478	.1481	.143	.0007	.0062	-0.0005
	30.0	45.0	0	0	.0	.0	2.98	.0	-2	-108	.1462	-1.058	.1440	.108	.0048	-0.0017	-0.0006
	30.0	45.0	0	0	.0	.0	2.98	.0	0	.016	.1458	.016	.1458	.125	.0044	.0014	-0.0006
	30.0	45.0	0	0	.0	.0	2.98	.0	2	.095	.1522	.100	.1488	.104	.0040	.0012	-0.0007
	30.0	45.0	0	0	.0	.0	2.98	.0	4	.173	.1640	.184	.1515	.107	.0031	.0011	-0.0007
	30.0	45.0	0	0	.0	.0	2.98	.0	8	.340	.2033	.365	.1539	.1109	.0029	.0010	-0.0008
	30.0	45.0	0	0	.0	.0	2.98	.0	12	.510	.2668	.555	.1548	.1146	.0027	.0012	-0.0009
	30.0	45.0	0	0	.0	.0	2.98	.0	16	.682	.3525	.753	.1506	.1191	.0026	.0017	-0.0009
	30.0	45.0	0	0	.0	.0	4.01	.0	-4	-110	.1373	-1.120	.1293	.101	.0038	-0.0006	.0003
	30.0	45.0	0	0	.0	.0	4.01	.0	-2	-0.049	.1374	-.054	.1356	.1010	.0039	-0.0001	.0003
	30.0	45.0	0	0	.0	.0	4.01	.0	0	.014	.1388	.014	.1386	.025	.0049	.0002	-0.0001
	30.0	45.0	0	0	.0	.0	4.01	.0	2	.076	.1452	.081	.1424	.036	.0040	.0002	-0.0005
	30.0	45.0	0	0	.0	.0	4.01	.0	4	.159	.1355	.177	.1355	.105	.0050	.0001	-0.0005
	30.0	45.0	0	0	.0	.0	4.01	.0	8	.271	.1521	.297	.1521	.177	.0035	.0003	-0.0008
	30.0	45.0	0	0	.0	.0	4.01	.0	12	.421	.2532	.446	.1602	.1111	.0008	.0002	.0010
	30.0	45.0	0	0	.0	.0	4.01	.0	16	.575	.3327	.645	.1611	.1164	.0018	.0011	-0.0013
	30.0	45.0	0	0	.0	.0	4.01	.0	20	.759	.4522	.868	.1651	.1249	.0045	.0001	-0.0018
	30.0	45.0	-10	-10	.0	.0	2.98	.0	-4	-173	.1623	-1.184	.1498	.079	.0061	-0.0022	-0.0005
	30.0	45.0	-10	-10	.0	.0	2.98	.0	-2	-101	.1570	-1.107	.1534	.072	.0045	-0.0018	-0.0005
	30.0	45.0	-10	-10	.0	.0	2.98	.0	0	-0.027	.1553	-.027	.1553	.058	.0041	-0.0014	-0.0002
	30.0	45.0	-10	-10	.0	.0	2.98	.0	2	.051	.1582	.056	.1563	.037	.0032	-0.0008	-0.0001
	30.0	45.0	-10	-10	.0	.0	2.98	.0	4	.126	.1652	.137	.1560	.014	.0024	-0.0008	.0001
	30.0	45.0	-10	-10	.0	.0	2.98	.0	8	.284	.1950	.301	.1536	.028	.0016	-0.0008	-0.0003
	30.0	45.0	-10	-10	.0	.0	2.98	.0	12	.450	.2500	.493	.1508	.058	.0018	-0.0011	-0.0005
	30.0	45.0	-10	-10	.0	.0	2.98	.0	16	.612	.3289	.679	.1473	.086	.0011	-0.0013	-0.0004
	30.0	45.0	-10	-10	.0	.0	2.98	.0	20	.756	.4206	.854	.1366	-.095	.0012	-0.0015	-0.0007
	30.0	45.0	-10	-10	.0	.0	4.01	.0	-4	-137	.1503	-1.147	.1403	.049	.0034	-0.0005	.0004
	30.0	45.0	-10	-10	.0	.0	4.01	.0	-2	-0.079	.1478	-.084	.1465	.043	.0030	-0.0010	-0.0004
	30.0	45.0	-10	-10	.0	.0	4.01	.0	0	.021	.1465	-.021	.1465	.031	.0029	-0.0010	-0.0004
	30.0	45.0	-10	-10	.0	.0	4.01	.0	2	.045	.1495	.051	.1478	.014	.0026	-0.0009	-0.0002
	30.0	45.0	-10	-10	.0	.0	4.01	.0	4	.106	.1576	.117	.1498	.003	.0018	-0.0005	-0.0003
	3																

TABLE II. - Concluded

CONFIGURATION 2 WITH HORIZONTAL TAIL 2a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Wing off	20+0	20+0	0	0	+0	0	2.98	+0	-4	+0.69	+0.662	+0.073	+0.612	+0.004	+0.056	+0.015	+0.001
	20+0	20+0	0	0	+0	0	2.98	+0	-2	+0.28	+0.628	+0.030	+0.618	+0.000	+0.056	+0.017	+0.001
	20+0	20+0	0	0	+0	0	2.98	+0	-2	+0.28	+0.637	+0.030	+0.627	+0.001	+0.051	+0.015	+0.000
	20+0	20+0	0	0	+0	0	2.98	+0	0	+0.06	+0.623	+0.006	+0.623	+0.003	+0.057	+0.016	+0.000
	20+0	20+0	0	0	+0	0	2.98	+0	2	+0.47	+0.661	+0.050	+0.644	+0.009	+0.052	+0.014	+0.000
	20+0	20+0	0	0	+0	0	2.98	+0	4	+0.92	+0.733	+0.097	+0.667	+0.016	+0.043	+0.012	+0.001
	20+0	20+0	0	0	+0	0	2.98	+0	8	+1.89	+0.954	+0.201	+0.681	+0.025	+0.033	+0.012	+0.001
	20+0	20+0	0	0	+0	0	2.98	+0	12	+3.07	+1.352	+0.328	+0.684	+0.037	+0.029	+0.011	+0.000
	20+0	20+0	0	0	+0	0	2.98	+0	16	+4.26	+1.919	+0.462	+0.670	+0.051	+0.034	+0.016	+0.001
	20+0	20+0	0	0	+0	0	2.98	+0	20	+5.4	+2.655	+0.606	+0.618	+0.071	+0.029	+0.017	+0.001
	20+0	20+0	0	0	+0	0	4.01	+0	-4	+0.71	+0.586	+0.075	+0.535	+0.000	+0.037	+0.007	+0.002
	20+0	20+0	0	0	+0	0	4.01	+0	-2	+0.31	+0.553	+0.033	+0.542	+0.001	+0.032	+0.000	+0.002
	20+0	20+0	0	0	+0	0	4.01	+0	0	+0.02	+0.539	+0.002	+0.539	+0.002	+0.033	+0.005	+0.003
	20+0	20+0	0	0	+0	0	4.01	+0	2	+0.37	+0.560	+0.039	+0.547	+0.002	+0.028	+0.002	+0.001
	20+0	20+0	0	0	+0	0	4.01	+0	4	+0.73	+0.607	+0.077	+0.554	+0.002	+0.024	+0.003	+0.001
	20+0	20+0	0	0	+0	0	4.01	+0	8	+1.65	+0.818	+0.174	+0.580	+0.010	+0.011	+0.008	+0.001
	20+0	20+0	0	0	+0	0	4.01	+0	12	+2.67	+1.188	+0.286	+0.606	+0.021	+0.003	+0.007	+0.000
	20+0	20+0	0	0	+0	0	4.01	+0	16	+3.74	+1.705	+0.406	+0.607	+0.040	+0.014	+0.003	+0.000
	20+0	20+0	0	0	+0	0	4.01	+0	20	+4.94	+2.425	+0.547	+0.589	+0.071	+0.031	+0.001	+0.003
	20+0	20+0	-10	-10	+0	0	2.98	+0	-4	+1.15	+0.803	+0.120	+0.721	+0.080	+0.051	+0.014	+0.001
	20+0	20+0	-10	-10	+0	0	2.98	+0	-2	+0.78	+0.745	+0.080	+0.718	+0.079	+0.046	+0.013	+0.001
	20+0	20+0	-10	-10	+0	0	2.98	+0	0	+0.40	+0.707	+0.040	+0.707	+0.075	+0.041	+0.010	+0.001
	20+0	20+0	-10	-10	+0	0	2.98	+0	2	+0.02	+0.689	+0.000	+0.690	+0.068	+0.036	+0.008	+0.000
	20+0	20+0	-10	-10	+0	0	2.98	+0	4	+0.38	+0.705	+0.043	+0.716	+0.059	+0.027	+0.007	+0.000
	20+0	20+0	-10	-10	+0	0	2.98	+0	8	+1.40	+0.867	+0.150	+0.664	+0.050	+0.021	+0.006	+0.000
	20+0	20+0	-10	-10	+0	0	2.98	+0	12	+2.52	+1.179	+0.271	+0.628	+0.061	+0.019	+0.003	+0.002
	20+0	20+0	-10	-10	+0	0	2.98	+0	16	+3.66	+1.873	+0.398	+0.597	+0.036	+0.020	+0.011	+0.001
	20+0	20+0	-10	-10	+0	0	2.98	+0	20	+4.69	+2.251	+0.517	+0.511	+0.032	+0.021	+0.014	+0.002
	20+0	20+0	-10	-10	+0	0	4.01	+0	-4	+1.09	+0.711	+0.114	+0.632	+0.059	+0.042	+0.001	+0.009
	20+0	20+0	-10	-10	+0	0	4.01	+0	-2	+0.76	+0.654	+0.078	+0.627	+0.058	+0.038	+0.009	+0.009
	20+0	20+0	-10	-10	+0	0	4.01	+0	0	+0.39	+0.609	+0.039	+0.609	+0.057	+0.033	+0.013	+0.008
	20+0	20+0	-10	-10	+0	0	4.01	+0	2	+0.02	+0.589	+0.000	+0.590	+0.051	+0.028	+0.009	+0.008
	20+0	20+0	-10	-10	+0	0	4.01	+0	4	+0.31	+0.602	+0.036	+0.579	+0.052	+0.029	+0.004	+0.008
	20+0	20+0	-10	-10	+0	0	4.01	+0	8	+1.20	+0.752	+0.129	+0.578	+0.049	+0.016	+0.005	+0.008
	20+0	20+0	-10	-10	+0	0	4.01	+0	12	+2.16	+1.056	+0.232	+0.587	+0.051	+0.007	+0.006	+0.008
	20+0	20+0	-10	-10	+0	0	4.01	+0	16	+3.31	+1.483	+0.340	+0.567	+0.050	+0.012	+0.008	+0.007
	20+0	20+0	-10	-10	+0	0	4.01	+0	20	+4.2	+2.118	+0.474	+0.526	+0.036	+0.032	+0.005	+0.007
	20+0	20+0	-20	-20	+0	0	2.98	+0	-4	+1.69	+1.146	+0.177	+1.025	+0.154	+0.029	+0.003	+0.007
	20+0	20+0	-20	-20	+0	0	2.98	+0	-2	+1.71	+1.171	+0.179	+1.049	+0.154	+0.020	+0.006	+0.007
	20+0	20+0	-20	-20	+0	0	2.98	+0	-4	+1.40	+1.070	+0.144	+1.020	+0.150	+0.029	+0.001	+0.007
	20+0	20+0	-20	-20	+0	0	2.98	+0	0	+1.00	+0.985	+0.100	+0.985	+0.152	+0.019	+0.004	+0.008
	20+0	20+0	-20	-20	+0	0	2.98	+0	2	+0.67	+0.914	+0.064	+0.936	+0.144	+0.030	+0.005	+0.007
	20+0	20+0	-20	-20	+0	0	2.98	+0	4	+0.23	+0.872	+0.016	+0.886	+0.134	+0.021	+0.006	+0.008
	20+0	20+0	-20	-20	+0	0	2.98	+0	8	+0.23	+0.876	+0.016	+0.890	+0.134	+0.005	+0.009	+0.009
	20+0	20+0	-20	-20	+0	0	2.98	+0	12	+1.91	+1.216	+0.212	+0.791	+0.119	+0.008	+0.006	+0.009
	20+0	20+0	-20	-20	+0	0	2.98	+0	16	+3.03	+1.656	+0.337	+0.756	+0.125	+0.009	+0.003	+0.010
	20+0	20+0	-20	-20	+0	0	2.98	+0	20	+4.12	+2.220	+0.463	+0.674	+0.132	+0.008	+0.002	+0.011
	20+0	20+0	-20	-20	+0	0	4.01	+0	-4	+1.55	+1.028	+0.162	+0.911	+0.125	+0.037	+0.010	+0.004
	20+0	20+0	-20	-20	+0	0	4.01	+0	-2	+1.26	+0.936	+0.123	+0.893	+0.127	+0.027	+0.003	+0.004
	20+0	20+0	-20	-20	+0	0	4.01	+0	0	+0.94	+0.844	+0.104	+0.844	+0.122	+0.023	+0.001	+0.004
	20+0	20+0	-20	-20	+0	0	4.01	+0	2	+0.48	+0.774	+0.045	+0.791	+0.114	+0.024	+0.007	+0.003
	20+0	20+0	-20	-20	+0	0	4.01	+0	4	+0.08	+0.761	+0.008	+0.765	+0.109	+0.020	+0.003	+0.002
	20+0	20+0	-20	-20	+0	0	4.01	+0	8	+0.76	+0.845	+0.087	+0.731	+0.107	+0.015	+0.007	+0.002
	20+0	20+0	-20	-20	+0	0	4.01	+0	12	+1.64	+1.112	+0.183	+0.746	+0.117	+0.004	+0.007	+0.002
	20+0	20+0	-20	-20	+0	0	4.01	+0	16	+2.58	+1.496	+0.289	+0.727	+0.130	+0.004	+0.007	+0.002
	20+0	20+0	-20	-20	+0	0	4.01	+0	20	+3.49	+2.039	+0.397	+0.722	+0.138	+0.022	+0.006	+0.002
	20+0	20+0	-30	-30	+0	0	2.98	+0	-4	+2.14	+1.633	+0.225	+1.479	+0.218	+0.023	+0.003	+0.002
	20+0	20+0	-30	-30	+0	0	2.98	+0	-2	+1.80	+1.529	+0.185	+1.465	+0.221	+0.012	+0.001	+0.002
	20+0	20+0	-30	-30	+0	0	2.98	+0	0	+1.48	+1.414	+0.148	+1.414	+0.221	+0.001	+0.003	+0.002
	20+0	20+0	-30	-30	+0	0	2.98	+0	2	+1.09	+1.295	+0.104	+1.332	+0.212	+0.018	+0.003	+0.003
	20+0	20+0	-30	-30	+0	0	2.98	+0	4	+0.62	+1.196	+0.054	+1.237	+0.197	+0.004	+0.007	+0.002
	20+0	20+0	-30	-30	+0	0	2.98	+0	8	+0.04	+1.210	+0.057	+1.141	+0.181	+0.000	+0.004	+0.000
	20+0	20+0	-30	-30	+0	0	2.98	+0	12	+1.50	+1.401	+0.176	+1.058	+0.176	+0.010	+0.004	+0.000
	20+0	20+0	-30	-30	+0	0	2.98	+0	16	+2.51	+1.794	+0.291	+1.031	+0.190	+0.011	+0.001	+0.005
	20+0	20+0	-30	-30	+0	0	2.98	+0	20	+3.52	+2.306	+0.409	+1.063	+0.204	+0.004	+0.004	+0.004
	20+0	20+0	-30	-30	+0	0	4.01	+0	-4	+1.98	+1.467	+0.207	+1.325	+0.187	+0.035	+0.009	+0.003
	20+0	20+0	-30	-30	+0	0	4.01	+0	-2	+1.63	+1.374	+0.168	+1.316	+0.188	+0.030	+0.005	+0.004
	20+0	20+0	-30	-30	+0	0	4.01	+0	0	+1.32	+1.249	+0.132	+1.249	+0.187	+0.021	+0.015	+0.004
	20+0	20+0	-30	-30	+0	0	4.01	+0	2	+0.88	+1.131	+0.084	+1.161	+0.174	+0.017	+0.010	+0.002
	20+0	20+0	-30	-30	+0	0	4.01	+0	4	+0.04	+1.063	+0.039	+1.093	+0.166	+0.023	+0.002	+0.001
	20+0	20+0	-30	-30	+0	0	4.01	+0	8	+0.42	+1.106	+0.057	+1.036	+0.159	+0.005	+0.007	+0.000
	20+0	20+0	-30	-30	+0	0	4.01	+0	12	+1.19	+1.332	+0.144	+1.054	+0.172	+0.006	+0.009	+0.002
	20+0																

TABLE III

CONFIGURATION 2 WITH HORIZONTAL TAIL 2b

Model	δ_{b_u} , deg	δ_{b_l} , deg	δ_{h_L} , deg	δ_{h_R} , deg	δ_{v_u} , deg	δ_{v_l} , deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	20.0	20.0	0	0	0	0	2.98	-5.0	-4	.172	.0960	-.178	.0888	.041	.1140	-.0325	.0061
	20.0	20.0	0	0	0	0	2.98	-5.0	-2	-.085	.0967	-.001	.0885	.022	.1113	-.0300	.0069
	20.0	20.0	0	0	0	0	2.98	-5.0	0	-.003	.0947	-.002	.0887	-.000	.1093	-.0272	.0076
	20.0	20.0	0	0	0	0	2.98	-5.0	2	.080	.0982	-.082	.0853	-.028	.1095	-.0249	.0081
	20.0	20.0	0	0	0	0	2.98	-5.0	4	.165	.0969	-.171	.0852	-.055	.1087	-.0224	.0081
	20.0	20.0	0	0	0	0	2.98	-5.0	8	.338	.1319	.353	.0835	-.105	.1086	-.0186	.0088
	20.0	20.0	0	0	0	0	2.98	-5.0	12	.519	.1964	.548	.0841	-.156	.1070	-.0150	.0115
	20.0	20.0	0	0	0	0	2.98	-5.0	16	.695	.2879	.747	.0850	-.203	.1034	-.0099	.0127
	20.0	20.0	0	0	0	0	2.98	-5.0	20	.884	.4067	.970	.0797	-.245	.1031	-.0050	.0130
	20.0	20.0	0	0	0	0	2.98	-3.0	-4	-.167	.0941	-.173	.0822	-.037	.0707	-.0208	.0034
	20.0	20.0	0	0	0	0	2.98	-3.0	-2	-.079	.0856	-.082	.0827	-.018	.0675	-.0189	.0040
	20.0	20.0	0	0	0	0	2.98	-3.0	0	-.002	.0839	-.002	.0839	-.005	.0658	-.0168	.0045
	20.0	20.0	0	0	0	0	2.98	-3.0	2	.081	.0867	.084	.0837	-.033	.0652	-.0153	.0048
	20.0	20.0	0	0	0	0	2.98	-3.0	4	.165	.0950	.171	.0832	-.061	.0661	-.0138	.0052
	20.0	20.0	0	0	0	0	2.98	-3.0	8	.341	.1318	.356	.0830	-.116	.0630	-.0099	.0056
	20.0	20.0	0	0	0	0	2.98	-3.0	12	.519	.1964	.550	.0838	-.163	.0638	-.0272	.0069
	20.0	20.0	0	0	0	0	2.98	-3.0	16	.695	.2879	.747	.0850	-.203	.1034	-.0099	.0127
	20.0	20.0	0	0	0	0	2.98	-3.0	20	.884	.4067	.970	.0797	-.245	.1031	-.0050	.0130
	20.0	20.0	0	0	0	0	2.98	-3.0	-4	-.167	.0941	-.173	.0822	-.037	.0707	-.0208	.0034
	20.0	20.0	0	0	0	0	2.98	-3.0	-2	-.079	.0856	-.082	.0827	-.018	.0675	-.0189	.0040
	20.0	20.0	0	0	0	0	2.98	-3.0	0	-.002	.0839	-.002	.0839	-.005	.0658	-.0168	.0045
	20.0	20.0	0	0	0	0	2.98	-3.0	2	.081	.0867	.084	.0837	-.033	.0652	-.0153	.0048
	20.0	20.0	0	0	0	0	2.98	-3.0	4	.165	.0950	.171	.0832	-.061	.0661	-.0138	.0052
	20.0	20.0	0	0	0	0	2.98	-3.0	8	.341	.1318	.356	.0830	-.116	.0630	-.0099	.0056
	20.0	20.0	0	0	0	0	2.98	-3.0	12	.519	.1964	.550	.0838	-.163	.0638	-.0272	.0069
	20.0	20.0	0	0	0	0	2.98	-3.0	16	.695	.2879	.747	.0850	-.203	.1034	-.0099	.0127
	20.0	20.0	0	0	0	0	2.98	-3.0	20	.884	.4067	.970	.0797	-.245	.1031	-.0050	.0130
	20.0	20.0	0	0	0	0	2.98	-3.0	-4	-.167	.0941	-.173	.0822	-.037	.0707	-.0208	.0034
	20.0	20.0	0	0	0	0	2.98	-3.0	-2	-.079	.0856	-.082	.0827	-.018	.0675	-.0189	.0040
	20.0	20.0	0	0	0	0	2.98	-3.0	0	-.002	.0839	-.002	.0839	-.005	.0658	-.0168	.0045
	20.0	20.0	0	0	0	0	2.98	-3.0	2	.081	.0867	.084	.0837	-.033	.0652	-.0153	.0048
	20.0	20.0	0	0	0	0	2.98	-3.0	4	.165	.0950	.171	.0832	-.061	.0661	-.0138	.0052
	20.0	20.0	0	0	0	0	2.98	-3.0	8	.341	.1318	.356	.0830	-.116	.0630	-.0099	.0056
	20.0	20.0	0	0	0	0	2.98	-3.0	12	.519	.1964	.550	.0838	-.163	.0638	-.0272	.0069
	20.0	20.0	0	0	0	0	2.98	-3.0	16	.695	.2879	.747	.0850	-.203	.1034	-.0099	.0127
	20.0	20.0	0	0	0	0	2.98	-3.0	20	.884	.4067	.970	.0797	-.245	.1031	-.0050	.0130
	20.0	20.0	0	0	0	0	2.98	-3.0	-4	-.167	.0941	-.173	.0822	-.037	.0707	-.0208	.0034
	20.0	20.0	0	0	0	0	2.98	-3.0	-2	-.079	.0856	-.082	.0827	-.018	.0675	-.0189	.0040
	20.0	20.0	0	0	0	0	2.98	-3.0	0	-.002	.0839	-.002	.0839	-.005	.0658	-.0168	.0045
	20.0	20.0	0	0	0	0	2.98	-3.0	2	.081	.0867	.084	.0837	-.033	.0652	-.0153	.0048
	20.0	20.0	0	0	0	0	2.98	-3.0	4	.164	.0946	.170	.0830	-.067	.0664	-.0138	.0052
	20.0	20.0	0	0	0	0	2.98	-3.0	8	.342	.1327	.357	.0838	-.124	.0638	-.0099	.0056
	20.0	20.0	0	0	0	0	2.98	-3.0	12	.524	.1979	.554	.0846	-.171	.0646	-.0272	.0069
	20.0	20.0	0	0	0	0	2.98	-3.0	16	.705	.2889	.757	.0829	-.219	.0629	-.0099	.0056
	20.0	20.0	0	0	0	0	2.98	-3.0	20	.894	.4143	.982	.0834	-.274	.0634	-.015	.0000
	20.0	20.0	0	0	0	0	2.98	1.0	-4	-.147	.0896	-.153	.0791	-.034	.0133	-.0035	-.0013
	20.0	20.0	0	0	0	0	2.98	1.0	-2	.068	.0851	-.071	.0826	-.017	.0153	-.0038	-.0013
	20.0	20.0	0	0	0	0	2.98	1.0	0	.014	.0832	-.014	.0832	-.007	.0150	-.0036	-.0013
	20.0	20.0	0	0	0	0	2.98	1.0	2	.096	.0877	-.095	.084	-.035	.0142	-.0038	-.0013
	20.0	20.0	0	0	0	0	2.98	1.0	4	.181	.0968	-.181	.0846	-.061	.016	-.0038	-.0013
	20.0	20.0	0	0	0	0	2.98	1.0	8	.354	.1354	.349	.0848	-.111	.0156	-.0019	-.0018
	20.0	20.0	0	0	0	0	2.98	1.0	12	.541	.2017	.571	.0847	-.164	.0158	-.0008	-.0021
	20.0	20.0	0	0	0	0	2.98	1.0	16	.720	.2525	.772	.0827	-.213	.0152	-.0004	-.0026
	20.0	20.0	0	0	0	0	2.98	1.0	20	.907	.4186	.996	.0829	-.270	.0140	-.0007	-.0026
	20.0	20.0	0	0	0	0	4.01	0	-4	-.214	.1071	-.221	.0918	-.125	.0053	-.0020	-.0009
	20.0	20.0	0	0	0	0	4.01	0	-2	.141	.0979	-.144	.0929	-.115	.0043	-.0018	-.0008
	20.0	20.0	0	0	0	0	4.01	0	0	.060	.0924	-.060	.0924	-.096	.0034	-.0014	-.0008
	20.0	20.0	0	0	0	0	4.01	0	2	.023	.0912	-.026	.0903	-.068	.0031	-.0011	-.0008
	20.0	20.0	0	0	0	0	4.01	0	4	.145	.0813	-.150	.0710	-.047	.0027	-.0002	-.0004
	20.0	20.0	0	0	0	0	4.01	0	8	.292	.1154	.305	.0736	-.084	.0012	-.0003	-.0003
	20.0	20.0	0	0	0	0	4.01	0	12	.448	.1748	.474	.0778	-.122	.0011	-.0000	-.0004
	20.0	20.0	0	0	0	0	4.01	0	16	.620	.2616	.668	.0805	-.078	.0016	-.0008	-.0010
	20.0	20.0	0	0	0	0	4.01	0	20	.808	.3837	.891	.0840	-.250	.0004	-.0010	-.0010
	20.0	20.0	-10	-10	0	0	2.98	0	-4	-.214	.1071	-.221	.0918	-.125	.0053	-.0020	-.0009
	20.0	20.0	-10	-10	0	0	2.98	0	-2	.141	.0979	-.144	.0929	-.115	.0043	-.0018	-.0008
	20.0	20.0	-10	-10	0	0	2.98	0	0	.060	.0924	-.060	.0924	-.096	.0034	-.0014	-.0008
	20.0	20.0	-10	-10	0	0	2.98	0	2	.023	.0912	-.026	.0903	-.068	.0031	-.0011	-.0008
	20.0	20.0	-10	-10	0	0	2.98	0	4	.145	.0813	-.150	.0710	-.047	.0027	-.0002	-.0004
	20.0	20.0	-10	-10	0	0	2.98	0	8	.292	.1155	.305	.0736	-.084	.0012	-.0003	-.0003
	20.0	20.0	-10	-10	0	0	2.98	0	12	.448	.1748	.474	.0778	-.122	.0011	-.0000	-.0004
	20.0	20.0	-10	-10	0	0	2.98	0	16	.620	.2616	.668	.0805	-.078	.0016	-.0008	-.0010
	20.0	20.0	-10	-10	0	0	2.98	0	20	.780	.3327	.768	.0745	-.071	.0037	-.0012	-.0000
	20.0	20.0	-20	-20	0	0	2.98	0	-4	-.227	.1294	-.235	.1133	-.161	.0034	-.0014	-.0006
	20.0	20.0	-20	-20	0	0	2.98	0	-2	.164	.1190	-.168	.1132	-.157	.0033	-.0008	-.0004
	20.0	20.0	-20	-20	0	0	2.98	0	0	.108	.1116	-.108	.1116	-.151	.0029	-.0004	-.0006
	20.0	20.0	-20	-20	0	0	2.98	0	2	.034	.1054	-.030	.106				

TABLE III.- Concluded

CONFIGURATION 2 WITH HORIZONTAL TAIL 2b

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	20.0	20.0	-30	-30	.0	.0	4.01	.0	-4	-253	.1815	-265	.1635	.213	.0032	-0.0011	.0000
	20.0	20.0	-30	-30	.0	.0	4.01	.0	-2	-196	.1723	-202	.1653	.211	.0031	-0.0011	.0005
	20.0	20.0	-30	-30	.0	.0	4.01	.0	0	-139	.1626	-139	.1626	.203	.0026	.0002	.0006
	20.0	20.0	-30	-30	.0	.0	4.01	.0	2	-3078	.1557	-072	.1583	.191	.0023	.0001	.0008
	20.0	20.0	-30	-30	.0	.0	4.01	.0	4	-4010	.1513	-000	.1516	.179	.0019	-0.0004	.0010
	20.0	20.0	-30	-30	.0	.0	4.01	.0	8	+115	.1590	+136	.1415	.154	.0016	-0.0011	.0013
	20.0	20.0	-30	-30	.0	.0	4.01	.0	12	+237	.1963	+273	.1426	.152	.0015	-0.0017	.0014
	20.0	20.0	-30	-30	.0	.0	4.01	.0	16	+367	.2633	+426	.1517	.161	.0017	-0.0008	.0018
	20.0	20.0	-30	-30	.0	.0	4.01	.0	20	+507	.3551	+597	.1609	.163	.0028	-0.0009	.0026

TABLE IV

CONFIGURATION 3 WITH VERTICAL TAILS 3a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	5.0	5.0	5	5	.0	.0	2.98	-5.0	-2			-0.062	-0.022	+0.1077	+0.0281		
	5.0	5.0	5	5	.0	.0	2.98	-5.0	0			.036	-0.047	+0.1099	+0.0273		
	5.0	5.0	5	5	.0	.0	2.98	-5.0	2			.118	-0.071	+0.1110	+0.0264		
	5.0	5.0	5	5	.0	.0	2.98	-5.0	4			.200	-0.094	+0.1142	+0.0250		
	5.0	5.0	5	5	.0	.0	2.98	-5.0	6			.370	-0.130	+0.1174	+0.0236		
	5.0	5.0	5	5	.0	.0	2.98	-5.0	12			.558	-0.196	+0.1228	+0.0227		
	5.0	5.0	5	5	.0	.0	2.98	-5.0	16			.745	-0.246	+0.1472	+0.0216		
	5.0	5.0	5	5	.0	.0	2.98	-5.0	20			.957	-0.307	+0.1552	+0.0200		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	-2			-0.057	-0.023	+0.0653	+0.0177		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	0			.034	-0.047	+0.0650	+0.0169		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	2			.123	-0.073	+0.0636	+0.0154		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	4			.208	-0.098	+0.0642	+0.0142		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	8			.378	-0.148	+0.0682	+0.0118		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	12			.561	-0.198	+0.0748	+0.0107		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	16			.753	-0.251	+0.0796	+0.0109		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	20			.967	-0.310	+0.0882	+0.0165		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	2			-0.051	-0.026	+0.0119	+0.0007		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	6			.047	-0.047	+0.0111	+0.0035		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	10			.222	-0.073	+0.0200	+0.0002		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	14			.310	-0.100	+0.0334	+0.0005		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	18			.380	-0.150	+0.041	+0.0007		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	22			.562	-0.201	+0.0442	+0.0009		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	26			.756	-0.254	+0.0532	+0.0014		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	30			.971	-0.317	+0.0618	+0.0010		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	34			1.222	-0.399	+0.0821	+0.0012		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	38			-0.056	-0.023	+0.0182	+0.0046		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	42			.034	-0.048	+0.0186	+0.0044		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	46			.128	-0.074	+0.0195	+0.0042		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	50			.209	-0.099	+0.0204	+0.0041		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	54			.386	-0.153	+0.0237	+0.0038		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	58			.564	-0.201	+0.0288	+0.0035		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	62			.757	-0.255	+0.0288	+0.0030		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	66			.968	-0.317	+0.0261	+0.0052		
	5.0	5.0	5	5	.0	.0	2.98	-3.0	70			.1047	-0.0147	+0.0018			
	5.0	5.0	0	0	0	0	2.98	-5.0	-2			.085	.016	+0.1070	+0.0283		
	5.0	5.0	0	0	0	0	2.98	-5.0	2			.004	.004	+0.1081	+0.0276		
	5.0	5.0	0	0	0	0	2.98	-5.0	4			.086	.031	+0.1098	+0.0261		
	5.0	5.0	0	0	0	0	2.98	-5.0	8			.171	.055	+0.1126	+0.0251		
	5.0	5.0	0	0	0	0	2.98	-5.0	12			.343	.105	+0.1221	+0.0227		
	5.0	5.0	0	0	0	0	2.98	-5.0	16			.521	.151	+0.1316	+0.0224		
	5.0	5.0	0	0	0	0	2.98	-5.0	20			.699	.195	+0.1443	+0.0246		
	5.0	5.0	0	0	0	0	2.98	-5.0	24			.904	.249	+0.1398	+0.0248	.0040	
	5.0	5.0	0	0	0	0	2.98	-5.0	28			.3450	.246	+0.1522	+0.0282		
	5.0	5.0	0	0	0	0	2.98	-3.0	-4			.076	.028	+0.0645	+0.0178	.0003	
	5.0	5.0	0	0	0	0	2.98	-3.0	0			.057	.057	+0.0657	+0.0168	.0005	
	5.0	5.0	0	0	0	0	2.98	-3.0	4			.098	.032	+0.0628	+0.0160		
	5.0	5.0	0	0	0	0	2.98	-3.0	8			.177	.054	+0.0615	+0.0137	.0009	
	5.0	5.0	0	0	0	0	2.98	-3.0	12			.173	.057	+0.0629	+0.0139		
	5.0	5.0	0	0	0	0	2.98	-3.0	16			.500	.521	+0.150	+0.0101	.0002	
	5.0	5.0	0	0	0	0	2.98	-3.0	20			.1537	.4662	+0.153	+0.0111		
	5.0	5.0	0	0	0	0	2.98	-3.0	24			.706	.199	+0.1979	+0.0116		
	5.0	5.0	0	0	0	0	2.98	-3.0	28			.837	.3482	+0.247	+0.0130	.0035	
	5.0	5.0	0	0	0	0	2.98	-3.0	32			.906	.0407	+0.249	+0.0170		
	5.0	5.0	0	0	0	0	2.98	-3.0	36			.145	.0452	+0.256	+0.018	.0005	
	5.0	5.0	0	0	0	0	2.98	-3.0	40			.074	.0474	+0.050	+0.005		
	5.0	5.0	0	0	0	0	2.98	-3.0	44			.173	.0595	+0.057	+0.009		
	5.0	5.0	0	0	0	0	2.98	-3.0	48			.500	.1537	+0.109	+0.0166		
	5.0	5.0	0	0	0	0	2.98	-3.0	52			.175	.056	+0.1065	+0.0116		
	5.0	5.0	0	0	0	0	2.98	-3.0	56			.525	.150	+0.1070	+0.0101		
	5.0	5.0	0	0	0	0	2.98	-3.0	60			.706	.199	+0.1979	+0.0116		
	5.0	5.0	0	0	0	0	2.98	-3.0	64			.383	.3482	+0.247	+0.0130	.0035	
	5.0	5.0	0	0	0	0	2.98	-3.0	68			.918	.249	+0.249	+0.0170		
	5.0	5.0	0	0	0	0	2.98	-3.0	72			.074	.0464	+0.051	+0.0016	.0006	
	5.0	5.0	0	0	0	0	2.98	-3.0	76			.013	.0464	+0.009	+0.0006	.0003	
	5.0	5.0	0	0	0	0	2.98	-3.0	80			.171	.0470	+0.056	+0.0052	.0003	
	5.0	5.0	0	0	0	0	2.98	-3.0	84			.175	.0470	+0.056	+0.0052	.0003	
	5.0	5.0	0	0	0	0	2.98	-3.0	88			.344	.111	+0.059	+0.0038	.0001	
	5.0	5.0	0	0	0	0	2.98	-3.0	92			.512	.0455	+0.152	+0.0043	.0010	
	5.0	5.0	0	0	0	0	2.98	-3.0	96			.522	.157	+0.041	+0.0044	.0007	
	5.0	5.0	0	0	0	0	2.98	-3.0	100			.704	.202	+0.032	+0.008		
	5.0	5.0	0	0	0	0	2.98	-3.0	104			.832	.3458	+0.254	+0.0125	.0026	.0009
	5.0	5.0	0	0	0	0	2.98	-3.0	108			.900	.0403	+0.257	+0.0224	.0007	
	5.0	5.0	0	0	0	0	2.98	-3.0	112			.915	.257	+0.125	+0.0224	.0007	
	5.0	5.0	0	0	0	0	2.98	-3.0	116			.4816	.0261	+0.319	+0.0081	.0020	.0014
	5.0	5.0	0	0	0	0	2.98	-3.0	120			.164	.331	+0.008	+0.006		
	5.0	5.0	0	0	0	0	2.98	-3.0	124			.073	.010	+0.0190	+0.0047		
	5.0	5.0	0	0	0	0	2.98	-3.0	128			.004	.0475	+0.004	+0.004	.0000	
	5.0	5.0	0	0	0	0	2.98	-3.0	132			.005	.032	+0.0195	+0.0055		
	5.0	5.0	0	0	0	0	2.98	-3.0	136			.095	.032	+0.0199	+0.0040		
	5.0	5.0	0	0	0	0	2.98	-3.0	140			.172	.0478	+0.057	+0.0211	.0042	.0003
	5.0	5.0	0	0	0	0	2.98	-3.0	144			.175	.058	+0.0207	+0.039		
	5.0	5.0	0	0	0	0	2.98	-3.0	148			.347	.110	+0.110	+0.0235	.0033	
	5.0	5.0	0	0	0	0	2.98	-3.0	152			.513	.0472	+0.153	+0.0260	.0035	.0009
	5.0	5.0	0	0	0	0	2.98	-3.0	156			.532	.158	+0.158	+0.0231	.0028	
	5.0	5.0	0	0	0	0	2.98	-3.0	160			.721	.206	+0.205			

TABLE IV. - Continued

CONFIGURATION 3 WITH VERTICAL TAILS 3a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	5.0	5.0	0	0	-2.5	.0	2.98	-5.0	-2		-.090		.017	.0985	-.0225		
	5.0	5.0	0	0	-2.5	.0	2.98	-5.0	0		-.004		-.005	.0995	-.0219		
	5.0	5.0	0	0	-2.5	.0	2.98	-5.0	2		.091		-.032	.1022	-.0212		
	5.0	5.0	0	0	-2.5	.0	2.98	-5.0	4		.117		-.045	.1055	-.0205		
	5.0	5.0	0	0	-2.5	.0	2.98	-5.0	8		.342		-.105	.1152	-.0187		
	5.0	5.0	0	0	-2.5	.0	2.98	-5.0	12		.522		-.151	.1274	-.0186		
	5.0	5.0	0	0	-2.5	.0	2.98	-5.0	16		.708		-.198	.1401	-.0211		
	5.0	5.0	0	0	-2.5	.0	2.98	-5.0	20		.927		-.253	.1496	-.0261		
	5.0	5.0	0	0	-2.5	.0	2.98	-5.0	24		.087		.014	.0557	-.0121		
	5.0	5.0	0	0	-2.5	.0	2.98	-5.0	28		.004		-.007	.0554	-.0115		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	0		.093		-.033	.0545	-.0102		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	4		.178		-.058	.0562	-.0096		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	8		.356		-.111	.0603	-.0076		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	12		.530		-.154	.0680	-.0076		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	16		.718		-.203	.0758	-.0085		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	20		.923		-.252	.0858	-.0159		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	24		.081		.012	-.0079	.0052		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	28		.013		-.01	-.0087	.0053		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	32		.035		-.017	.0051	-.0017		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	36		.180		-.060	.0056	-.0051		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	40		.357		-.115	.0118	-.0067		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	44		.534		-.160	.0114	-.0044		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	48		.723		-.207	-.0088	.0041		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	52		.925		-.258	-.0071	.0030		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	56		1.172		-.324	.0090	-.0059		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	60		.079		.013	-.0289	.0108		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	64		.014		-.010	-.0293	.0103		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	68		.092		-.032	-.0288	.0095		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	72		.184		-.060	-.0297	.0089		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	76		.350		-.111	-.0315	.0079		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	80		.567		-.163	-.0298	.0067		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	84		.723		-.205	-.0301	.0063		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	88		.924		-.258	-.0314	.0076		
	5.0	5.0	0	0	-2.5	.0	2.98	-3.0	92		1.170		-.324	-.0164	-.0013		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-5.0	-2		-.079		.015	.0926	-.0186		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-5.0	0		.009		-.007	.0937	-.0178		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-5.0	2		.095		-.032	.0954	-.0167		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-5.0	4		.177		-.055	.0976	-.0154		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-5.0	8		.349		-.106	.1074	-.0132		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-5.0	12		.527		-.152	.1177	-.0127		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-5.0	16		.721		-.199	.1300	-.0140		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-5.0	20		.925		-.252	.1389	-.0184		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	-2		.077		.013	-.0496	-.0079		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	0		.011		-.008	.0491	-.0071		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	4		.100		-.035	.0473	-.0057		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	8		.174		-.048	.0488	-.0056		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	12		.349		-.110	.0524	-.0025		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	16		.527		-.156	.0586	-.0013		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	20		.725		-.204	.0638	-.0018		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	24		.930		-.253	.0733	-.0079		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	28		.074		.012	-.0141	.0094		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	32		.020		-.012	-.0149	.0096		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	36		.092		-.033	-.0175	.0098		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	40		.184		-.060	-.0189	.0101		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	44		.357		-.113	-.0201	.0102		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	48		.541		-.160	-.0197	.0102		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	52		.729		-.206	-.0182	.0105		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	56		.928		-.258	-.0175	.0103		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	60		1.178		-.328	-.0054	.0040		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	64		.076		.003	-.0351	.0149		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	68		.010		-.030	-.0344	.0144		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	72		.002		-.034	-.0364	.0144		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	76		.183		-.059	-.0367	.0137		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	80		.359		-.113	-.0396	.0133		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	84		.534		-.156	-.0405	.0130		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	88		.724		-.204	-.0410	.0133		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	92		.933		-.259	-.0428	.0151		
	5.0	5.0	0	0	-2.5	-2.5	2.98	-3.0	96		1.174		-.321	-.0262	.0062		

TABLE IV - Continued

CONFIGURATION 3 WITH VERTICAL TAILS 3a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	5.0	5.0	0	0	-5.0	0	2.98	-5.0	-2								
	5.0	5.0	0	0	-5.0	0	2.98	-5.0	0	.018	.0915	-.0175					
	5.0	5.0	0	0	-5.0	0	2.98	-5.0	2	.002	.0932	-.0173					
	5.0	5.0	0	0	-5.0	0	2.98	-5.0	4	.088	.0952	-.0166					
	5.0	5.0	0	0	-5.0	0	2.98	-5.0	8	.177	.0954	-.0160					
	5.0	5.0	0	0	-5.0	0	2.98	-5.0	12	.348	.104	.1108	-.0149				
	5.0	5.0	0	0	-5.0	0	2.98	-5.0	16	.529	.152	.1227	-.0158				
	5.0	5.0	0	0	-5.0	0	2.98	-5.0	20	.714	.197	.1367	-.0185				
	5.0	5.0	0	0	-5.0	0	2.98	-3.0	-2	.926	.251	.1473	-.0243				
	5.0	5.0	0	0	-5.0	0	2.98	-3.0	0	.084	.015	.0480	-.0066				
	5.0	5.0	0	0	-5.0	0	2.98	-3.0	2	.008	.006	.0486	-.0066				
	5.0	5.0	0	0	-5.0	0	2.98	-3.0	4	.096	.032	.0477	-.0057				
	5.0	5.0	0	0	-5.0	0	2.98	-3.0	8	.175	.056	.0489	-.0049				
	5.0	5.0	0	0	-5.0	0	2.98	-3.0	12	.352	.110	.0550	-.0039				
	5.0	5.0	0	0	-5.0	0	2.98	-3.0	16	.522	.154	.0496	-.0038				
	5.0	5.0	0	0	-5.0	0	2.98	-3.0	20	.718	.191	.0700	-.0058				
	5.0	5.0	0	0	-5.0	0	2.98	-3.0	24	.929	.251	.0816	-.0142				
	5.0	5.0	0	0	-5.0	0	2.98	0	-2	.078	.012	.0162	-.0106				
	5.0	5.0	0	0	-5.0	0	2.98	0	0	.017	.011	.0155	.0102				
	5.0	5.0	0	0	-5.0	0	2.98	0	2	.092	.033	.0175	.0100				
	5.0	5.0	0	0	-5.0	0	2.98	0	4	.177	.059	.0184	.0097				
	5.0	5.0	0	0	-5.0	0	2.98	0	8	.353	.112	.0180	.0090				
	5.0	5.0	0	0	-5.0	0	2.98	0	12	.536	.159	.0155	.0080				
	5.0	5.0	0	0	-5.0	0	2.98	0	16	.726	.205	.0124	.0071				
	5.0	5.0	0	0	-5.0	0	2.98	0	20	.929	.258	.0086	.0050				
	5.0	5.0	0	0	-5.0	0	2.98	0	24	1.180	.328	.0034	-.0023				
	5.0	5.0	0	0	-5.0	0	2.98	1.0	-2	.076	.012	.0367	.0162				
	5.0	5.0	0	0	-5.0	0	2.98	1.0	0	.007	.009	.0362	.0153				
	5.0	5.0	0	0	-5.0	0	2.98	1.0	2	.09	.030	.044	.0142				
	5.0	5.0	0	0	-5.0	0	2.98	1.0	4	.184	.060	.0360	.0135				
	5.0	5.0	0	0	-5.0	0	2.98	1.0	8	.256	.112	.0380	-.0132				
	5.0	5.0	0	0	-5.0	0	2.98	1.0	12	.534	.157	.0363	.0107				
	5.0	5.0	0	0	-5.0	0	2.98	1.0	16	.737	.208	-.0352	.0094				
	5.0	5.0	0	0	-5.0	0	2.98	1.0	20	.926	.259	-.0345	.0097				
	5.0	5.0	0	0	-5.0	0	2.98	1.0	24	1.168	.322	-.0164	-.0007				
	5.0	5.0	0	0	-5.0	-5.0	2.98	-5.0	-2								
	5.0	5.0	0	0	-5.0	-5.0	2.98	-5.0	0	.083	.015	.0786	-.0097				
	5.0	5.0	0	0	-5.0	-5.0	2.98	-5.0	2	.010	.008	.0797	-.0090				
	5.0	5.0	0	0	-5.0	-5.0	2.98	-5.0	8	.096	.032	.0808	-.0077				
	5.0	5.0	0	0	-5.0	-5.0	2.98	-5.0	12	.174	.055	.0834	-.0065				
	5.0	5.0	0	0	-5.0	-5.0	2.98	-5.0	16	.346	.106	.0932	-.0046				
	5.0	5.0	0	0	-5.0	-5.0	2.98	-5.0	20	.534	.155	.1040	-.0039				
	5.0	5.0	0	0	-5.0	-5.0	2.98	-5.0	24	.719	.200	.160	-.0050				
	5.0	5.0	0	0	-5.0	-5.0	2.98	-5.0	28	.918	.251	.1224	-.0040				
	5.0	5.0	0	0	-5.0	-5.0	2.98	-3.0	-2	.087	.015	.0360	.0008				
	5.0	5.0	0	0	-5.0	-5.0	2.98	-3.0	0	.004	.007	.0361	.0014				
	5.0	5.0	0	0	-5.0	-5.0	2.98	-3.0	2	.093	.034	.0347	.0028				
	5.0	5.0	0	0	-5.0	-5.0	2.98	-3.0	4	.172	.056	.0343	.0042				
	5.0	5.0	0	0	-5.0	-5.0	2.98	-3.0	8	.353	.111	.0399	.0061				
	5.0	5.0	0	0	-5.0	-5.0	2.98	-3.0	12	.531	.155	.0461	.0072				
	5.0	5.0	0	0	-5.0	-5.0	2.98	-3.0	16	.719	.203	.0507	.0068				
	5.0	5.0	0	0	-5.0	-5.0	2.98	-3.0	20	.926	.255	.0583	.0016				
	5.0	5.0	0	0	-5.0	-5.0	2.98	-3.0	24	.081	.013	-.0283	.0183				
	5.0	5.0	0	0	-5.0	-5.0	2.98	0	0	.007	.008	-.0303	.0186				
	5.0	5.0	0	0	-5.0	-5.0	2.98	0	2	.096	.033	-.0316	.0188				
	5.0	5.0	0	0	-5.0	-5.0	2.98	0	4	.178	.058	-.0315	.0186				
	5.0	5.0	0	0	-5.0	-5.0	2.98	0	8	.355	.112	-.0327	.0188				
	5.0	5.0	0	0	-5.0	-5.0	2.98	0	12	.529	.155	-.0329	.0192				
	5.0	5.0	0	0	-5.0	-5.0	2.98	0	16	.719	.204	-.0323	.0194				
	5.0	5.0	0	0	-5.0	-5.0	2.98	0	20	.919	.257	-.0326	.0195				
	5.0	5.0	0	0	-5.0	-5.0	2.98	0	24	1.169	.323	-.0170	.0117				
	5.0	5.0	0	0	-5.0	-5.0	2.98	1.0	-2	.079	.013	.0483	.0238				
	5.0	5.0	0	0	-5.0	-5.0	2.98	1.0	0	.011	.007	.0492	.0233				
	5.0	5.0	0	0	-5.0	-5.0	2.98	1.0	2	.093	.030	-.0496	.0229				
	5.0	5.0	0	0	-5.0	-5.0	2.98	1.0	4	.174	.056	-.0505	.0226				
	5.0	5.0	0	0	-5.0	-5.0	2.98	1.0	8	.350	.109	-.0543	.0221				
	5.0	5.0	0	0	-5.0	-5.0	2.98	1.0	12	.525	.153	-.0547	.0218				
	5.0	5.0	0	0	-5.0	-5.0	2.98	1.0	16	.710	.201	-.0562	.0223				
	5.0	5.0	0	0	-5.0	-5.0	2.98	1.0	20	.929	.258	-.0570	.0244				
	5.0	5.0	0	0	-5.0	-5.0	2.98	1.0	24	1.156	.315	-.0384	.0133				

TABLE IV - Continued
CONFIGURATION 3 WITH VERTICAL TAILS 3a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_y	C_n	C_l
Complete	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	-2		-.086	.017	.0821	-.0120			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	0		.006	-.006	.0858	-.0123			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	2		.075	-.026	.0922	-.0122			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	4		.172	-.053	.0919	-.0115			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	8		.344	-.105	.104	-.0115			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	12		.532	-.153	.1326	-.0127			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	16		.719	-.199	.1329	-.0158			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	20		.921	-.251	.1433	-.0224			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	-2		-.080	.013	.0393	-.0013			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	0		.011	-.009	.0400	-.0013			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	2		.094	-.033	.0349	-.0003			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	4		.176	-.058	.0424	-.0003			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	8		.350	-.110	.0479	-.0001			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	12		.533	-.156	.0568	-.0008			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	16		.722	-.203	.0668	-.0033			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	20		.922	-.247	.0820	-.0145			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	-2		-.074	.010	-.0246	.0161			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	0		.014	-.012	-.0245	.0157			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	2		.099	-.036	-.0259	.0151			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	4		.181	-.061	-.0258	.0144			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	8		.352	-.152	-.039	.0130			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	12		.532	-.158	-.0229	.0115			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	16		.720	-.204	-.0193	.0102			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	20		.930	-.260	-.0139	.0070			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	24		1.161	-.319	-.0048	-.0047			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	-2		-.073	.010	-.0466	.0221			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	0		.011	-.011	-.0450	.0208			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	2		.100	-.036	-.0450	.0194			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	4		.181	-.060	-.0438	.0181			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	8		.351	-.111	-.0450	.0161			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	12		.535	-.157	-.0436	.0145			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	16		.725	-.207	-.0405	.0126			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	20		.931	-.260	-.0394	.0115			
	5.0	5.0	0	0	-7.5	.0	2.98	-3.0	24		1.158	-.319	-.0182	-.0010			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	-2		-.086	.017	.0637	-.0004			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	0		.003	-.005	.0648	-.0004			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	2		.089	-.030	.0665	-.0012			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	4		.174	-.055	.0686	-.0027			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	8		.348	-.108	.0799	-.0045			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	12		.525	-.153	.0900	-.0048			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	16		.708	-.197	.1000	-.0044			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	20		.923	-.253	.1080	-.0002			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	-2		-.087	.015	.0203	.0105			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	0		.005	-.007	.0199	.0111			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	4		.090	-.033	.0191	.0122			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	8		.176	-.057	.0208	.0132			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	12		.353	-.111	.0248	.0150			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	16		.528	-.154	.0303	.0163			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	20		.712	-.201	.036	.0158			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	-2		.919	-.242	.0429	.0164			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	0		-.084	.013	-.0445	.0283			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	4		.004	-.007	-.0466	.0284			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	8		.089	-.031	-.0463	.0282			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	12		.171	-.054	-.0467	.0284			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	16		.347	-.107	-.0487	.0284			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	20		.530	-.154	-.0488	.0290			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	-2		.714	-.200	-.036	.0247			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	0		.927	-.255	-.0481	.0298			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	4		1.159	-.318	-.0332	.0204			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	8		-.075	.014	-.0651	.0339			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	12		.015	-.007	-.0655	.0334			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	16		.093	-.029	-.0655	.0329			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	20		.147	-.056	-.0650	.0324			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	-2		.343	-.115	-.0693	.0321			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	0		.531	-.152	-.0705	.0326			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	4		.707	-.198	-.0713	.0324			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	8		.919	-.254	-.0722	.0340			
	5.0	5.0	0	0	-7.5	.0	2.98	-5.0	12		1.153	-.311	-.0525	.0218			

TABLE IV. - Concluded
CONFIGURATION 3 WITH VERTICAL TAILS 3a

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,l}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	5.0	5.0	-10	-10	.0	.0	2.98	-5.0	-2			-.134		.090	.1113	-.0311	
	5.0	5.0	-10	-10	.0	.0	2.98	-5.0	0			.045	.068	.1120	-.0296		
	5.0	5.0	-10	-10	.0	.0	2.98	-5.0	4			.046	.041	.1126	-.0280		
	5.0	5.0	-10	-10	.0	.0	2.98	-5.0	8			.128	.158	.1142	-.0265		
	5.0	5.0	-10	-10	.0	.0	2.98	-5.0	12			.295	-.031	.1242	-.0246		
	5.0	5.0	-10	-10	.0	.0	2.98	-5.0	16			.475	-.071	.1360	-.0244		
	5.0	5.0	-10	-10	.0	.0	2.98	-5.0	20			.649	-.104	.1482	-.0263		
	5.0	5.0	-10	-10	.0	.0	2.98	-3.0	-2			.842	-.140	.1568	-.0299		
	5.0	5.0	-10	-10	.0	.0	2.98	-3.0	0			-.128	.085	.0669	-.0196		
	5.0	5.0	-10	-10	.0	.0	2.98	-3.0	2			.039	.066	.0649	-.0181		
	5.0	5.0	-10	-10	.0	.0	2.98	-3.0	4			.048	.040	.0641	-.0165		
	5.0	5.0	-10	-10	.0	.0	2.98	-3.0	8			.133	.014	.0653	-.0151		
	5.0	5.0	-10	-10	.0	.0	2.98	-3.0	12			.306	-.038	.0682	-.0130		
	5.0	5.0	-10	-10	.0	.0	2.98	-3.0	16			.479	-.075	.0737	-.0116		
	5.0	5.0	-10	-10	.0	.0	2.98	-3.0	20			.656	-.108	.0818	-.0108		
	5.0	5.0	-10	-10	.0	.0	2.98	-3.0	24			.895	-.144	.0607	-.0166		
	5.0	5.0	-10	-10	.0	.0	2.98	.0	-2			-.132	.032	.0020	-.0014		
	5.0	5.0	-10	-10	.0	.0	2.98	.0	0			.033	.044	.0111	-.0010		
	5.0	5.0	-10	-10	.0	.0	2.98	.0	2			.050	.040	-.0004	-.0008		
	5.0	5.0	-10	-10	.0	.0	2.98	.0	4			.135	.011	-.0033	-.0002		
	5.0	5.0	-10	-10	.0	.0	2.98	.0	8			.308	-.040	.0046	.0001		
	5.0	5.0	-10	-10	.0	.0	2.98	.0	12			.487	-.078	.0048	.0003		
	5.0	5.0	-10	-10	.0	.0	2.98	.0	16			.660	-.111	-.0034	.0002		
	5.0	5.0	-10	-10	.0	.0	2.98	.0	20			.862	-.150	-.0008	-.0001		
	5.0	5.0	-10	-10	.0	.0	2.98	.0	24			1.095	-.205	-.0009	.0000		
	5.0	5.0	-10	-10	.0	.0	2.98	.0	28			-.117	.083	.0186	.0044		
	5.0	5.0	-10	-10	.0	.0	2.98	.0	32			.033	.064	.0191	.0042		
	5.0	5.0	-10	-10	.0	.0	2.98	.0	36			.051	.041	-.0205	.0042		
	5.0	5.0	-10	-10	.0	.0	2.98	.0	40			.139	.012	-.0204	.0048		
	5.0	5.0	-10	-10	.0	.0	2.98	.0	44			.308	-.040	-.0237	.0035		
	5.0	5.0	-10	-10	.0	.0	2.98	.0	48			.486	-.077	.0249	.0032		
	5.0	5.0	-10	-10	.0	.0	2.98	.0	52			.657	-.113	-.0246	.0031		
	5.0	5.0	-10	-10	.0	.0	2.98	.0	56			.853	-.148	-.0267	.0054		
	5.0	5.0	-10	-10	.0	.0	2.98	.0	60			1.083	-.201	-.0248	.0037		
	5.0	5.0	-20	-20	.0	.0	2.98	-5.0	-2			-.190	.158	.1129	-.0331		
	5.0	5.0	-20	-20	.0	.0	2.98	-5.0	0			.100	.139	.1146	-.0321		
	5.0	5.0	-20	-20	.0	.0	2.98	-5.0	2			-.011	.114	.1130	-.0293		
	5.0	5.0	-20	-20	.0	.0	2.98	-5.0	4			.070	.091	.1178	-.0277		
	5.0	5.0	-20	-20	.0	.0	2.98	-5.0	8			.242	.039	.1265	-.0263		
	5.0	5.0	-20	-20	.0	.0	2.98	-5.0	12			.413	.004	.1367	-.0255		
	5.0	5.0	-20	-20	.0	.0	2.98	-5.0	16			.583	-.017	.1464	-.0274		
	5.0	5.0	-20	-20	.0	.0	2.98	-5.0	20			.774	-.047	.1477	-.0257		
	5.0	5.0	-20	-20	.0	.0	2.98	-3.0	-2			-.111	.152	.0681	-.0208		
	5.0	5.0	-20	-20	.0	.0	2.98	-3.0	0			.101	.136	.0677	-.0198		
	5.0	5.0	-20	-20	.0	.0	2.98	-3.0	2			-.012	.111	.0663	-.0179		
	5.0	5.0	-20	-20	.0	.0	2.98	-3.0	4			.072	.086	.0648	-.0194		
	5.0	5.0	-20	-20	.0	.0	2.98	-3.0	8			.246	.032	.0705	-.0145		
	5.0	5.0	-20	-20	.0	.0	2.98	-3.0	12			.421	-.001	.0750	-.0124		
	5.0	5.0	-20	-20	.0	.0	2.98	-3.0	16			.585	-.020	.0814	-.0134		
	5.0	5.0	-20	-20	.0	.0	2.98	-3.0	20			.776	-.041	.0870	-.0174		
	5.0	5.0	-20	-20	.0	.0	2.98	-3.0	24			-.177	.149	.0019	-.0012		
	5.0	5.0	-20	-20	.0	.0	2.98	-3.0	28			.088	.132	-.0009	-.0008		
	5.0	5.0	-20	-20	.0	.0	2.98	.0	0			-.010	.110	-.0025	-.0003		
	5.0	5.0	-20	-20	.0	.0	2.98	.0	2			.071	.085	-.0025	-.0003		
	5.0	5.0	-20	-20	.0	.0	2.98	.0	4			.248	-.003	-.0043	-.0005		
	5.0	5.0	-20	-20	.0	.0	2.98	.0	8			.422	-.003	-.0056	-.0009		
	5.0	5.0	-20	-20	.0	.0	2.98	.0	12			.595	-.024	-.0048	-.0009		
	5.0	5.0	-20	-20	.0	.0	2.98	.0	16			.777	-.045	-.0045	-.0010		
	5.0	5.0	-20	-20	.0	.0	2.98	.0	20			.976	-.078	-.0024	-.0007		
	5.0	5.0	-20	-20	.0	.0	2.98	.0	24			-.174	.150	-.0188	-.0050		
	5.0	5.0	-20	-20	.0	.0	2.98	.0	0			.087	.134	-.0193	-.0049		
	5.0	5.0	-20	-20	.0	.0	2.98	.0	2			-.005	.111	-.0202	-.0045		
	5.0	5.0	-20	-20	.0	.0	2.98	.0	4			.082	.084	-.0211	-.0042		
	5.0	5.0	-20	-20	.0	.0	2.98	.0	8			.252	.030	-.0250	-.0044		
	5.0	5.0	-20	-20	.0	.0	2.98	.0	12			.425	-.003	-.0263	-.0038		
	5.0	5.0	-20	-20	.0	.0	2.98	.0	16			.591	-.022	-.0277	-.0045		
	5.0	5.0	-20	-20	.0	.0	2.98	.0	20			.770	-.044	-.0289	-.0063		
	5.0	5.0	-20	-20	.0	.0	2.98	.0	24			.974	-.067	-.0211	-.0008		

TABLE V

CONFIGURATION 3 WITH VERTICAL TAILS 3b

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	5.0	15.0	0	0	.0	.0	2.98	-5.0	-2								
	5.0	15.0	0	0	.0	.0	2.98	-5.0	0	.086	.003	-.008	.0863	-.0147	.0166		
	5.0	15.0	0	0	.0	.0	2.98	-5.0	2	.085	-.031	.0853	-.0123				
	5.0	15.0	0	0	.0	.0	2.98	-5.0	4	.173	-.055	.0875	-.0099				
	5.0	15.0	0	0	.0	.0	2.98	-5.0	8	.344	-.104	.0959	-.0063				
	5.0	15.0	0	0	.0	.0	2.98	-5.0	12	.522	-.150	.1041	-.0038				
	5.0	15.0	0	0	.0	.0	2.98	-5.0	16	.712	-.197	.1122	-.0030				
	5.0	15.0	0	0	.0	.0	2.98	-5.0	20	.920	-.250	.1160	-.0045				
	5.0	15.0	0	0	.0	.0	2.98	-3.0	-2		-.077	.009	.0521	-.0104			
	5.0	15.0	0	0	.0	.0	2.98	-3.0	0		.014	-.012	.0506	-.0090			
	5.0	15.0	0	0	.0	.0	2.98	-3.0	2		.035	-.017	.0475	-.0057			
	5.0	15.0	0	0	.0	.0	2.98	-3.0	4		.181	-.001	.0488	-.0053			
	5.0	15.0	0	0	.0	.0	2.98	-3.0	8		.359	-.113	.0507	-.0017			
	5.0	15.0	0	0	.0	.0	2.98	-3.0	12		.528	-.157	.0547	-.0007			
	5.0	15.0	0	0	.0	.0	2.98	-3.0	16		.716	-.204	.0599	-.0015			
	5.0	15.0	0	0	.0	.0	2.98	-3.0	20		.928	-.256	.0632	-.0010			
	5.0	15.0	0	0	.0	.0	2.98	0	-2		-.071	.007	.0011	-.0006			
	5.0	15.0	0	0	.0	.0	2.98	0	0		.020	-.014	.0002	-.0004			
	5.0	15.0	0	0	.0	.0	2.98	0	2		.098	-.036	-.0023	-.0002			
	5.0	15.0	0	0	.0	.0	2.98	0	4		.183	-.062	-.0032	-.0002			
	5.0	15.0	0	0	.0	.0	2.98	0	8		.356	-.116	-.0045	+.0000			
	5.0	15.0	0	0	.0	.0	2.98	0	12		.532	-.163	-.0051	+.0004			
	5.0	15.0	0	0	.0	.0	2.98	0	16		.721	-.210	-.0041	+.0010			
	5.0	15.0	0	0	.0	.0	2.98	0	20		.926	-.264	-.0044	+.0011			
	5.0	15.0	0	0	.0	.0	2.98	0	24		1.167	-.331	-.0049	+.0018			
	5.0	15.0	0	0	.0	.0	2.98	1.0	-2		.073	-.007	-.0144	+.0024			
	5.0	15.0	0	0	.0	.0	2.98	1.0	0		.014	-.014	.0153	+.0021			
	5.0	15.0	0	0	.0	.0	2.98	1.0	2		.094	-.028	-.0152	+.0015			
	5.0	15.0	0	0	.0	.0	2.98	1.0	4		.176	-.062	-.0162	+.0011			
	5.0	15.0	0	0	.0	.0	2.98	1.0	8		.351	-.116	-.0189	+.0003			
	5.0	15.0	0	0	.0	.0	2.98	1.0	12		.527	-.161	-.0196	-.0002			
	5.0	15.0	0	0	.0	.0	2.98	1.0	16		.724	-.211	-.0206	-.0004			
	5.0	15.0	0	0	.0	.0	2.98	1.0	20		.927	-.265	-.0220	+.0012			
	5.0	15.0	0	0	.0	.0	2.98	1.0	24		1.163	-.324	-.0122	-.0049			
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	-2		-.089	.014	.0814	-.0116		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	0		.003	-.009	.0800	-.0090		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	2		.088	-.033	.0794	-.0066		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	4		.170	-.056	.0811	-.0040		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	8		.345	-.107	.0847	-.0035		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	12		.525	-.153	.0947	-.0039		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	16		.710	-.200	.1019	-.0057		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	20		.919	-.252	.1052	-.0050		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	24		-.080	-.010	.0449	-.0052		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	0		.011	-.011	.0440	-.0033		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	2		.100	-.036	.0415	-.0012		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	4		.178	-.059	.0410	+.0009		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	8		.355	-.114	.0425	+.0055		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	12		.539	-.161	.0455	+.0087		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	16		.724	-.207	.0496	+.0100		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	20		.929	-.260	.0508	+.0084		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	24		-.071	-.006	-.0062	+.0050		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	0		.017	-.016	-.0071	+.0054		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	2		.098	-.038	-.0101	+.0061		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	4		.183	-.067	-.0110	+.0075		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	8		.357	-.117	-.0128	+.0073		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	12		.537	-.165	-.0150	+.0084		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	16		.727	-.214	-.0145	+.0098		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	20		.921	-.264	-.0155	+.0102		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	24		1.172	-.331	-.0174	+.0134		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	0		-.073	-.006	-.0222	+.0081		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	2		.010	-.014	-.0226	+.0080		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	4		.098	-.039	-.0235	+.0078		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	8		.183	-.065	-.0239	+.0077		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	12		.356	-.118	-.0278	+.0076		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	16		.539	-.166	-.0299	+.0078		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	20		.726	-.213	-.0305	+.0082		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	24		.927	-.266	-.0330	+.0104		
	5.0	15.0	0	0	.0	.0	-5.0	2.98	-5.0	0		1.164	-.325	-.0258	+.0056		

TABLE V. - Continued

CONFIGURATION 3 WITH VERTICAL TAILS 3b

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	5.0	15.0	0	0	.0	-10.0	2.98	-5.0	-2		-.079	.012	.0731	.0064			
	5.0	15.0	0	0	.0	-10.0	2.98	-5.0	0		.013	-.011	.0717	-.0035			
	5.0	15.0	0	0	.0	-10.0	2.98	-5.0	2		.099	-.035	.0717	-.0007			
	5.0	15.0	0	0	.0	-10.0	2.98	-5.0	4		.184	-.060	.0738	.0021			
	5.0	15.0	0	0	.0	-10.0	2.98	-5.0	8		.347	-.108	.0807	.0071			
	5.0	15.0	0	0	.0	-10.0	2.98	-5.0	12		.532	-.156	.0874	.0112			
	5.0	15.0	0	0	.0	-10.0	2.98	-5.0	16		.716	-.201	.0962	.0133			
	5.0	15.0	0	0	.0	-10.0	2.98	-5.0	20		.927	-.256	.0994	.0128			
	5.0	15.0	0	0	.0	-10.0	2.98	-5.0	-2		-.080	.009	.0380	.0000			
	5.0	15.0	0	0	.0	-10.0	2.98	-3.0	0		.015	-.012	.0360	.0023			
	5.0	15.0	0	0	.0	-10.0	2.98	-3.0	2		.100	-.038	.0336	.0047			
	5.0	15.0	0	0	.0	-10.0	2.98	-3.0	4		.178	-.061	.0326	.0071			
	5.0	15.0	0	0	.0	-10.0	2.98	-3.0	8		.355	-.114	.0325	.0126			
	5.0	15.0	0	0	.0	-10.0	2.98	-3.0	12		.535	-.161	.0360	.0160			
	5.0	15.0	0	0	.0	-10.0	2.98	-3.0	16		.722	-.207	.0390	.0182			
	5.0	15.0	0	0	.0	-10.0	2.98	-3.0	20		.971	-.260	.0434	.0244			
	5.0	15.0	0	0	.0	-10.0	2.98	.0	-2		-.071	.005	-.0130	.0101			
	5.0	15.0	0	0	.0	-10.0	2.98	.0	0		.020	-.017	-.0149	.0112			
	5.0	15.0	0	0	.0	-10.0	2.98	.0	2		.098	-.040	-.0179	.0121			
	5.0	15.0	0	0	.0	-10.0	2.98	.0	4		.184	-.066	-.0447	.0153			
	5.0	15.0	0	0	.0	-10.0	2.98	.0	8		.356	-.119	-.0216	.0145			
	5.0	15.0	0	0	.0	-10.0	2.98	.0	12		.536	-.164	-.0248	.0162			
	5.0	15.0	0	0	.0	-10.0	2.98	.0	16		.726	-.213	-.0253	.0177			
	5.0	15.0	0	0	.0	-10.0	2.98	.0	20		.934	-.266	-.0266	.0192			
	5.0	15.0	0	0	.0	-10.0	2.98	.0	24		1.168	-.326	-.0308	.0234			
	5.0	15.0	0	0	.0	-10.0	2.98	1.0	-2		-.073	.004	-.0293	.0133			
	5.0	15.0	0	0	.0	-10.0	2.98	1.0	0		.017	-.016	-.0303	.0138			
	5.0	15.0	0	0	.0	-10.0	2.98	1.0	2		.095	-.039	-.0312	.0139			
	5.0	15.0	0	0	.0	-10.0	2.98	1.0	4		.183	-.066	-.0332	.0143			
	5.0	15.0	0	0	.0	-10.0	2.98	1.0	8		.356	-.119	-.0216	.0145			
	5.0	15.0	0	0	.0	-10.0	2.98	1.0	12		.536	-.164	-.0248	.0162			
	5.0	15.0	0	0	.0	-10.0	2.98	1.0	16		.726	-.213	-.0253	.0177			
	5.0	15.0	0	0	.0	-10.0	2.98	1.0	20		.934	-.266	-.0266	.0192			
	5.0	15.0	0	0	.0	-10.0	2.98	1.0	24		1.168	-.326	-.0308	.0234			

TABLE V. - Continued

CONFIGURATION 3 WITH VERTICAL TAILS 3b

Model	$\delta_{b,u}$ deg	$\delta_{b,l}$ deg	$\delta_{h,L}$ deg	$\delta_{h,R}$ deg	$\delta_{v,u}$ deg	$\delta_{v,l}$ deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete																	
15.0	5.0	0	0	0	.0	.0	2.98	-5.0	-2		-.092	.025	.0914	-.0190			
15.0	5.0	0	0	0	.0	.0	2.98	-5.0	0		-.003	.004	.0896	-.0170			
15.0	5.0	0	0	0	.0	.0	2.98	-5.0	2		-.081	-.020	.0901	-.0147			
15.0	5.0	0	0	0	.0	.0	2.98	-5.0	4		.163	-.043	.0917	-.0125			
15.0	5.0	0	0	0	.0	.0	2.98	-5.0	8		.333	-.092	.0988	-.0076			
15.0	5.0	0	0	0	.0	.0	2.98	-5.0	12		.514	-.137	.1054	-.0045			
15.0	5.0	0	0	0	.0	.0	2.98	-5.0	16		.701	-.182	.1119	-.0024			
15.0	5.0	0	0	0	.0	.0	2.98	-5.0	20		.901	-.230	.1140	-.0024			
15.0	5.0	0	0	0	.0	.0	2.98	-3.0	-2		-.080	.022	.0539	-.0118			
15.0	5.0	0	0	0	.0	.0	2.98	-3.0	0		.011	.000	.0520	-.0103			
15.0	5.0	0	0	0	.0	.0	2.98	-3.0	2		.093	-.023	.0501	-.0083			
15.0	5.0	0	0	0	.0	.0	2.98	-3.0	4		.170	-.046	.0496	-.0058			
15.0	5.0	0	0	0	.0	.0	2.98	-3.0	8		.343	-.099	.0510	-.0018			
15.0	5.0	0	0	0	.0	.0	2.98	-3.0	12		.524	-.144	.0550	-.0007			
15.0	5.0	0	0	0	.0	.0	2.98	-3.0	16		.708	-.190	.0587	-.0020			
15.0	5.0	0	0	0	.0	.0	2.98	-3.0	20		.912	-.233	.0635	-.0003			
15.0	5.0	0	0	0	.0	.0	2.98	-3.0	0		.078	-.019	.0005	-.0001			
15.0	5.0	0	0	0	.0	.0	2.98	-3.0	2		.020	-.004	.0001	-.0001			
15.0	5.0	0	0	0	.0	.0	2.98	-3.0	4		.095	-.025	-.0024	-.0002			
15.0	5.0	0	0	0	.0	.0	2.98	-3.0	8		.183	-.052	-.0028	-.0002			
15.0	5.0	0	0	0	.0	.0	2.98	-3.0	12		.355	-.104	-.0045	-.0004			
15.0	5.0	0	0	0	.0	.0	2.98	-3.0	16		.532	-.150	-.0041	-.0004			
15.0	5.0	0	0	0	.0	.0	2.98	-3.0	20		.719	-.197	-.0032	-.0015			
15.0	5.0	0	0	0	.0	.0	2.98	-3.0	24		.918	-.246	-.0036	-.0016			
15.0	5.0	0	0	0	.0	.0	2.98	1.0	-2		1.161	-.311	-.0030	-.0018			
15.0	5.0	0	0	0	.0	.0	2.98	1.0	0		.019	-.0155	-.0033				
15.0	5.0	0	0	0	.0	.0	2.98	1.0	4		.014	-.003	-.0164	-.0029			
15.0	5.0	0	0	0	.0	.0	2.98	1.0	8		.095	-.025	-.0168	-.002			
15.0	5.0	0	0	0	.0	.0	2.98	1.0	12		.179	-.077	-.0117	-.0017			
15.0	5.0	0	0	0	.0	.0	2.98	1.0	16		.311	-.103	-.0380	-.0055			
15.0	5.0	0	0	0	.0	.0	2.98	1.0	20		.533	-.149	-.0201	-.0002			
15.0	5.0	0	0	0	.0	.0	2.98	1.0	16		.723	-.197	-.0191	-.0003			
15.0	5.0	0	0	0	.0	.0	2.98	1.0	20		.923	-.247	-.0221	-.0018			
15.0	5.0	0	0	0	.0	.0	2.98	1.0	24		1.152	-.304	-.0118	-.0040			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-5.0	-2		-.086	.024	.0770	-.0091			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-5.0	0		.006	.001	.0765	-.0077			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-5.0	2		.085	-.021	.0771	-.0061			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-5.0	4		.168	-.044	.0792	-.0042			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-5.0	8		.339	-.094	.0869	-.0002			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-5.0	12		.518	-.139	.0946	-.0020			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-5.0	16		.709	-.186	.1054	-.0023			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-5.0	20		.906	-.233	.1084	-.0009			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	-2		-.001	.021	.0411	-.0019			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	0		.000	-.001	-.0090	-.0012			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	2		.090	-.024	.0283	-.0002			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	4		.171	-.047	.0373	-.0025			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	8		.346	-.101	.0414	-.0051			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	12		.527	-.146	.0459	-.0070			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	16		.707	-.191	.0510	-.0072			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	20		.918	-.239	.0570	-.0028			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	0		-.078	.019	-.0126	-.0097			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	4		.010	-.003	-.0130	-.0094			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	8		.095	-.025	-.0144	-.0088			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	12		.180	-.051	-.0142	-.0084			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	16		.350	-.103	-.0143	-.0076			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	20		.534	-.151	-.0140	-.0072			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	24		.714	-.198	-.0138	-.0074			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	0		.93	-.248	-.0098	-.0055			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	4		1.166	-.310	-.0055	-.0028			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	8		.076	-.019	-.0295	-.0134			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	12		.014	-.002	-.0289	-.0122			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	16		.095	-.025	-.0288	-.0111			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	20		.183	-.052	-.0281	-.0098			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	24		.353	-.104	-.0289	-.0072			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	0		.529	-.149	-.0290	-.0064			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	4		.727	-.199	-.0280	-.0049			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	8		.934	-.252	-.0284	-.0059			
15.0	5.0	0	0	-5.0	.0	.0	2.98	-3.0	12		1.160	-.304	-.0125	-.0040			

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TABLE V. - Continued

CONFIGURATION 3 WITH VERTICAL TAILS 3b

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	15.0	5.0	0	0	-10.0	0	2.98	-5.0	-2			-0.085	.026	.0645	.0008		
	15.0	5.0	0	0	-10.0	0	2.98	-5.0	0			-0.000	.004	.0655	.0014		
	15.0	5.0	0	0	-10.0	0	2.98	-5.0	2			.088	-.020	.0678	.0022		
	15.0	5.0	0	0	-10.0	0	2.98	-5.0	4			.167	-.043	.0705	.0032		
	15.0	5.0	0	0	-10.0	0	2.98	-5.0	8			.341	-.093	.0797	.0062		
	15.0	5.0	0	0	-10.0	0	2.98	-5.0	12			.525	-.139	.0886	.0076		
	15.0	5.0	0	0	-10.0	0	2.98	-5.0	16			.709	-.184	.1001	.0068		
	15.0	5.0	0	0	-10.0	0	2.98	-5.0	20			.910	-.231	.1075	.0030		
	15.0	5.0	0	0	-10.0	0	2.98	-3.0	-2			-.079	.024	.0269	.0084		
	15.0	5.0	0	0	-10.0	0	2.98	-3.0	0			.015	.002	.0276	.0081		
	15.0	5.0	0	0	-10.0	0	2.98	-3.0	2			.089	-.020	.0282	.0086		
	15.0	5.0	0	0	-10.0	0	2.98	-3.0	4			.174	-.045	.0284	.0101		
	15.0	5.0	0	0	-10.0	0	2.98	-3.0	8			.246	-.095	.0328	.0139		
	15.0	5.0	0	0	-10.0	0	2.98	-3.0	12			.524	-.142	.0460	.0125		
	15.0	5.0	0	0	-10.0	0	2.98	-3.0	16			.711	-.188	.0467	.0118		
	15.0	5.0	0	0	-10.0	0	2.98	-3.0	20			.919	-.238	.0546	.0061		
	15.0	5.0	0	0	-10.0	0	2.98	0	-2			-.074	.021	.0260	.0199		
	15.0	5.0	0	0	-10.0	0	2.98	0	0			.017	.000	-.0254	.0191		
	15.0	5.0	0	0	-10.0	0	2.98	0	4			.095	-.022	.0258	.0180		
	15.0	5.0	0	0	-10.0	0	2.98	0	8			.183	-.048	.0250	.0168		
	15.0	5.0	0	0	-10.0	0	2.98	0	12			.356	-.102	-.0227	.0148		
	15.0	5.0	0	0	-10.0	0	2.98	0	16			.536	-.148	-.0212	.0137		
	15.0	5.0	0	0	-10.0	0	2.98	0	20			.722	-.195	-.0187	.0119		
	15.0	5.0	0	0	-10.0	0	2.98	0	24			.926	-.243	-.0128	.0091		
	15.0	5.0	0	0	-10.0	0	2.98	0	28			1.165	-.307	-.0030	.0032		
	15.0	5.0	0	0	-10.0	0	2.98	1.0	-2			-.082	.023	.0427	.0239		
	15.0	5.0	0	0	-10.0	0	2.98	1.0	0			.007	.000	-.0406	.0222		
	15.0	5.0	0	0	-10.0	0	2.98	1.0	2			.088	-.020	.0401	.0234		
	15.0	5.0	0	0	-10.0	0	2.98	1.0	6			.154	-.047	-.0134	.0125		
	15.0	5.0	0	0	-10.0	0	2.98	1.0	8			.361	-.101	-.0275	.0146		
	15.0	5.0	0	0	-10.0	0	2.98	1.0	12			.528	-.146	-.0367	.0131		
	15.0	5.0	0	0	-10.0	0	2.98	1.0	16			.727	-.196	-.0225	.0098		
	15.0	5.0	0	0	-10.0	0	2.98	1.0	20			.926	-.246	-.0308	.0087		
	15.0	5.0	0	0	-10.0	0	2.98	1.0	24			1.148	-.298	-.0104	-.0043		
	15.0	15.0	0	0	0	0	2.98	-5.0	-2			-.080	.019	.0947	-.0224		
	15.0	15.0	0	0	0	0	2.98	-5.0	0			.006	-.002	.0941	-.0201		
	15.0	15.0	0	0	0	0	2.98	-5.0	2			.096	-.028	.0938	-.0179		
	15.0	15.0	0	0	0	0	2.98	-5.0	4			.178	-.052	.0964	-.0158		
	15.0	15.0	0	0	0	0	2.98	-5.0	8			.347	-.103	.1025	-.0110		
	15.0	15.0	0	0	0	0	2.98	-2.0	12			.526	-.151	.1084	-.0080		
	15.0	15.0	0	0	0	0	2.98	-2.0	16			.715	-.184	.1184	-.0056		
	15.0	15.0	0	0	0	0	2.98	-2.0	20			.919	-.248	.1248	-.0144		
	15.0	15.0	0	0	0	0	2.98	-3.0	-2			.423	-.089	.0552	-.0138		
	15.0	15.0	0	0	0	0	2.98	-3.0	0			.008	-.005	.0557	-.0124		
	15.0	15.0	0	0	0	0	2.98	-3.0	2			.093	-.030	.0537	-.0107		
	15.0	15.0	0	0	0	0	2.98	-3.0	4			.172	-.054	.0522	-.0080		
	15.0	15.0	0	0	0	0	2.98	-3.0	8			.357	-.110	.0542	-.0039		
	15.0	15.0	0	0	0	0	2.98	-3.0	12			.532	-.157	.0594	-.0016		
	15.0	15.0	0	0	0	0	2.98	-3.0	16			.725	-.206	.0630	-.0002		
	15.0	15.0	0	0	0	0	2.98	-3.0	20			.934	-.258	.0647	-.0059		
	15.0	15.0	0	0	0	0	2.98	0	-2			-.078	.013	.0010	-.0005		
	15.0	15.0	0	0	0	0	2.98	0	0			.013	-.009	-.0004	-.0003		
	15.0	15.0	0	0	0	0	2.98	0	2			.099	-.033	-.0018	-.0001		
	15.0	15.0	0	0	0	0	2.98	0	4			.184	-.060	.0033	.0001		
	15.0	15.0	0	0	0	0	2.98	0	8			.358	-.115	.0040	.0000		
	15.0	15.0	0	0	0	0	2.98	0	12			.526	-.161	.0036	.0004		
	15.0	15.0	0	0	0	0	2.98	0	16			.729	-.211	.0025	.0009		
	15.0	15.0	0	0	0	0	2.98	0	20			.940	-.267	-.0019	.0007		
	15.0	15.0	0	0	0	0	2.98	1.0	-2			1.181	-.330	-.0018	.0013		
	15.0	15.0	0	0	0	0	2.98	1.0	0			-.077	.014	-.0166	.0035		
	15.0	15.0	0	0	0	0	2.98	1.0	2			.017	-.008	.0174	-.0032		
	15.0	15.0	0	0	0	0	2.98	1.0	4			.099	-.032	.0169	-.0025		
	15.0	15.0	0	0	0	0	2.98	1.0	8			.187	-.059	.0183	-.0020		
	15.0	15.0	0	0	0	0	2.98	1.0	12			.354	-.113	.0201	-.0009		
	15.0	15.0	0	0	0	0	2.98	1.0	16			.541	-.162	.0202	-.0006		
	15.0	15.0	0	0	0	0	2.98	1.0	20			.731	-.212	.0202	-.0002		
	15.0	15.0	0	0	0	0	2.98	1.0	24			.928	-.264	-.0227	.0024		

TABLE V. - Concluded

CONFIGURATION 3 WITH VERTICAL TAILS 3b

Model	$\delta_{b,u}$, deg	$\delta_{b,l}$, deg	$\delta_{h,L}$, deg	$\delta_{h,R}$, deg	$\delta_{v,u}$, deg	$\delta_{v,l}$, deg	M	β , deg	α , deg	C_L	C_D	C_N	C_A	C_m	C_Y	C_n	C_l
Complete	15.0	15.0	0	0	-5.0	-5.0	2.98	-5.0	-2	-0.093	.020	.0746	-.0071				
	15.0	15.0	0	0	-5.0	-5.0	2.98	-5.0	0	-.007	-.001	.0748	-.0054				
	15.0	15.0	0	0	-5.0	-5.0	2.98	-5.0	2	.078	-.025	.0748	-.0034				
	15.0	15.0	0	0	-5.0	-5.0	2.98	-5.0	4	.167	-.052	.0770	-.0012				
	15.0	15.0	0	0	-5.0	-5.0	2.98	-5.0	8	.335	-.141	.0836	-.0051				
	15.0	15.0	0	0	-5.0	-5.0	2.98	-5.0	12	.520	-.146	.0853	-.0051				
	15.0	15.0	0	0	-5.0	-5.0	2.98	-5.0	16	.719	-.127	.0896	-.0071				
	15.0	15.0	0	0	-5.0	-5.0	2.98	-5.0	20	.942	-.256	.1036	-.0058				
	15.0	15.0	0	0	-5.0	-5.0	2.98	-3.0	-2	-.084	-.17	.0360	-.0016				
	15.0	15.0	0	0	-5.0	-5.0	2.98	-3.0	0	.004	-.004	.0346	-.0028				
	15.0	15.0	0	0	-5.0	-5.0	2.98	-3.0	2	.090	-.029	.0337	-.0041				
	15.0	15.0	0	0	-5.0	-5.0	2.98	-3.0	4	.172	-.055	.0327	-.0066				
	15.0	15.0	0	0	-5.0	-5.0	2.98	-3.0	8	.349	-.109	.0352	-.0102				
	15.0	15.0	0	0	-5.0	-5.0	2.98	-3.0	12	.527	-.155	.0381	-.0127				
	15.0	15.0	0	0	-5.0	-5.0	2.98	-3.0	16	.711	-.203	.0428	-.0136				
	15.0	15.0	0	0	-5.0	-5.0	2.98	-3.0	20	.918	-.256	.0472	-.0102				
	15.0	15.0	0	0	-5.0	-5.0	2.98	0	-2	-.078	.014	-.0198	.0152				
	15.0	15.0	0	0	-5.0	-5.0	2.98	0	0	.013	-.007	-.0202	.0152				
	15.0	15.0	0	0	-5.0	-5.0	2.98	0	2	.095	-.031	-.0227	.0152				
	15.0	15.0	0	0	-5.0	-5.0	2.98	0	4	.181	-.057	-.0231	.0151				
	15.0	15.0	0	0	-5.0	-5.0	2.98	0	8	.354	-.142	-.0238	.0160				
	15.0	15.0	0	0	-5.0	-5.0	2.98	0	12	.537	-.161	-.0244	.0151				
	15.0	15.0	0	0	-5.0	-5.0	2.98	0	16	.724	-.209	-.0229	.0154				
	15.0	15.0	0	0	-5.0	-5.0	2.98	0	20	.937	-.266	-.0216	.0146				
	15.0	15.0	0	0	-5.0	-5.0	2.98	0	24	.1177	-.328	-.0174	.0123				
	15.0	15.0	0	0	-5.0	-5.0	2.98	1.0	-2	-.073	.015	-.0372	.0194				
	15.0	15.0	0	0	-5.0	-5.0	2.98	1.0	0	.014	-.007	-.0371	.0189				
	15.0	15.0	0	0	-5.0	-5.0	2.98	1.0	2	.099	-.030	-.0375	.0180				
	15.0	15.0	0	0	-5.0	-5.0	2.98	1.0	4	.183	-.058	-.0374	.0173				
	15.0	15.0	0	0	-5.0	-5.0	2.98	1.0	8	.357	-.112	-.0397	.0155				
	15.0	15.0	0	0	-5.0	-5.0	2.98	1.0	12	.568	-.166	-.0407	.0154				
	15.0	15.0	0	0	-5.0	-5.0	2.98	1.0	16	.728	-.210	-.0394	.0144				
	15.0	15.0	0	0	-5.0	-5.0	2.98	1.0	20	.929	-.263	-.0414	.0151				
	15.0	15.0	0	0	-5.0	-5.0	2.98	1.0	24	.1170	-.324	-.0294	-.0082				
	15.0	15.0	0	0	-10.0	-10.0	2.98	-5.0	-2	-.000	.010	.0010	.0054				
	15.0	15.0	0	0	-10.0	-10.0	2.98	-5.0	0	.003	-.005	.0553	-.0097				
	15.0	15.0	0	0	-10.0	-10.0	2.98	-5.0	2	.089	-.030	.0570	-.0110				
	15.0	15.0	0	0	-10.0	-10.0	2.98	-5.0	4	.178	-.056	.0603	-.0126				
	15.0	15.0	0	0	-10.0	-10.0	2.98	-5.0	8	.349	-.108	.0695	-.0164				
	15.0	15.0	0	0	-10.0	-10.0	2.98	-5.0	12	.527	-.155	.0788	-.0185				
	15.0	15.0	0	0	-10.0	-10.0	2.98	-5.0	16	.718	-.203	.0891	-.0190				
	15.0	15.0	0	0	-10.0	-10.0	2.98	-5.0	20	.924	-.258	.0961	-.0167				
	15.0	15.0	0	0	-10.0	-10.0	2.98	-3.0	-2	-.083	.016	.0151	-.0171				
	15.0	15.0	0	0	-10.0	-10.0	2.98	-3.0	0	.008	-.006	.0152	-.0177				
	15.0	15.0	0	0	-10.0	-10.0	2.98	-3.0	2	.090	-.030	.0138	-.0190				
	15.0	15.0	0	0	-10.0	-10.0	2.98	-3.0	4	.172	-.056	.0139	-.0210				
	15.0	15.0	0	0	-10.0	-10.0	2.98	-3.0	8	.350	-.109	.0169	-.0238				
	15.0	15.0	0	0	-10.0	-10.0	2.98	-3.0	12	.527	-.157	.0214	-.0259				
	15.0	15.0	0	0	-10.0	-10.0	2.98	-3.0	16	.711	-.243	.0260	-.0262				
	15.0	15.0	0	0	-10.0	-10.0	2.98	-3.0	20	.928	-.260	-.015	-.0228				
	15.0	15.0	0	0	-10.0	-10.0	2.98	0	-2	-.081	.015	-.0408	-.0307				
	15.0	15.0	0	0	-10.0	-10.0	2.98	0	0	.017	-.009	-.0400	-.0303				
	15.0	15.0	0	0	-10.0	-10.0	2.98	0	2	.092	-.030	-.0426	-.0302				
	15.0	15.0	0	0	-10.0	-10.0	2.98	0	4	.177	-.057	-.0424	-.0299				
	15.0	15.0	0	0	-10.0	-10.0	2.98	0	8	.355	-.113	-.0431	-.0293				
	15.0	15.0	0	0	-10.0	-10.0	2.98	0	12	.539	-.162	-.0437	-.0296				
	15.0	15.0	0	0	-10.0	-10.0	2.98	0	16	.725	-.211	-.0421	-.0288				
	15.0	15.0	0	0	-10.0	-10.0	2.98	0	20	.932	-.264	-.0383	-.0279				
	15.0	15.0	0	0	-10.0	-10.0	2.98	0	24	.1173	-.326	-.0315	-.0228				
	15.0	15.0	0	0	-10.0	-10.0	2.98	1.0	-2	-.076	.017	.0574	.0352				
	15.0	15.0	0	0	-10.0	-10.0	2.98	1.0	0	.014	-.006	-.0573	.0344				
	15.0	15.0	0	0	-10.0	-10.0	2.98	1.0	2	.099	-.030	-.0572	.0330				
	15.0	15.0	0	0	-10.0	-10.0	2.98	1.0	4	.180	-.057	-.0611	.0323				
	15.0	15.0	0	0	-10.0	-10.0	2.98	1.0	8	.355	-.112	-.0579	.0323				
	15.0	15.0	0	0	-10.0	-10.0	2.98	1.0	12	.538	-.161	-.0597	.0299				
	15.0	15.0	0	0	-10.0	-10.0	2.98	1.0	16	.733	-.212	-.0569	-.0277				
	15.0	15.0	0	0	-10.0	-10.0	2.98	1.0	20	.932	-.264	-.0574	-.0280				
	15.0	15.0	0	0	-10.0	-10.0	2.98	1.0	24	.1154	-.320	-.0431	.0188				



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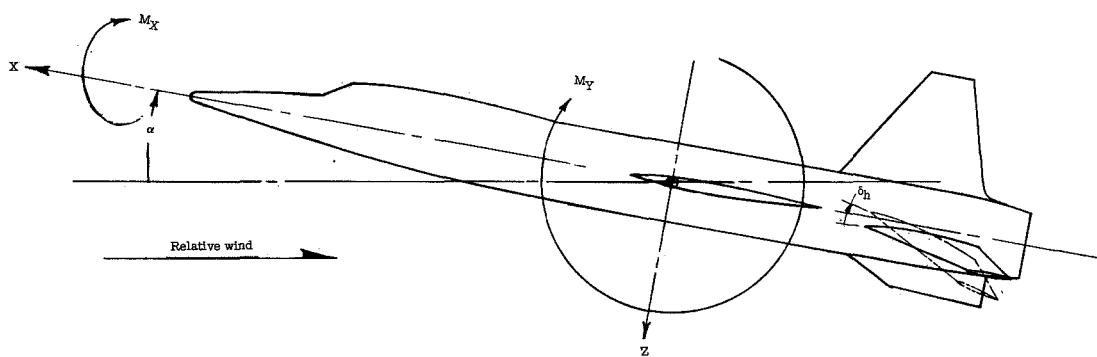
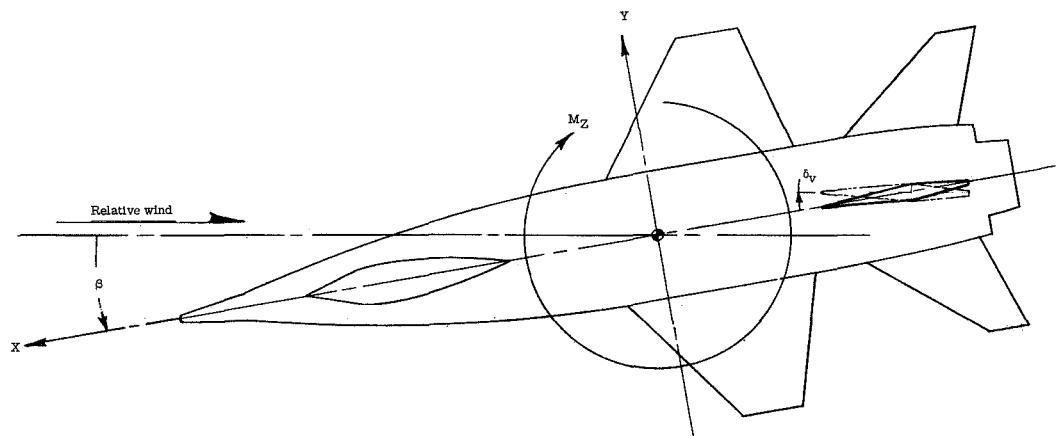


Figure 1.- Axis system.

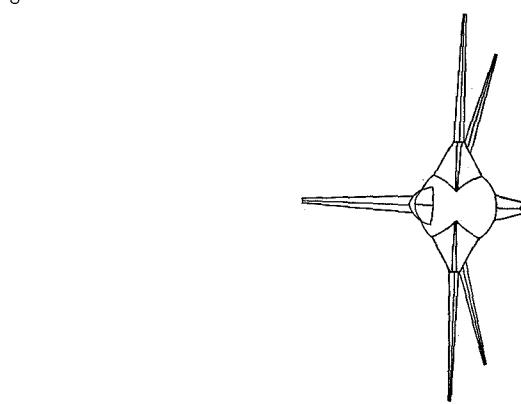
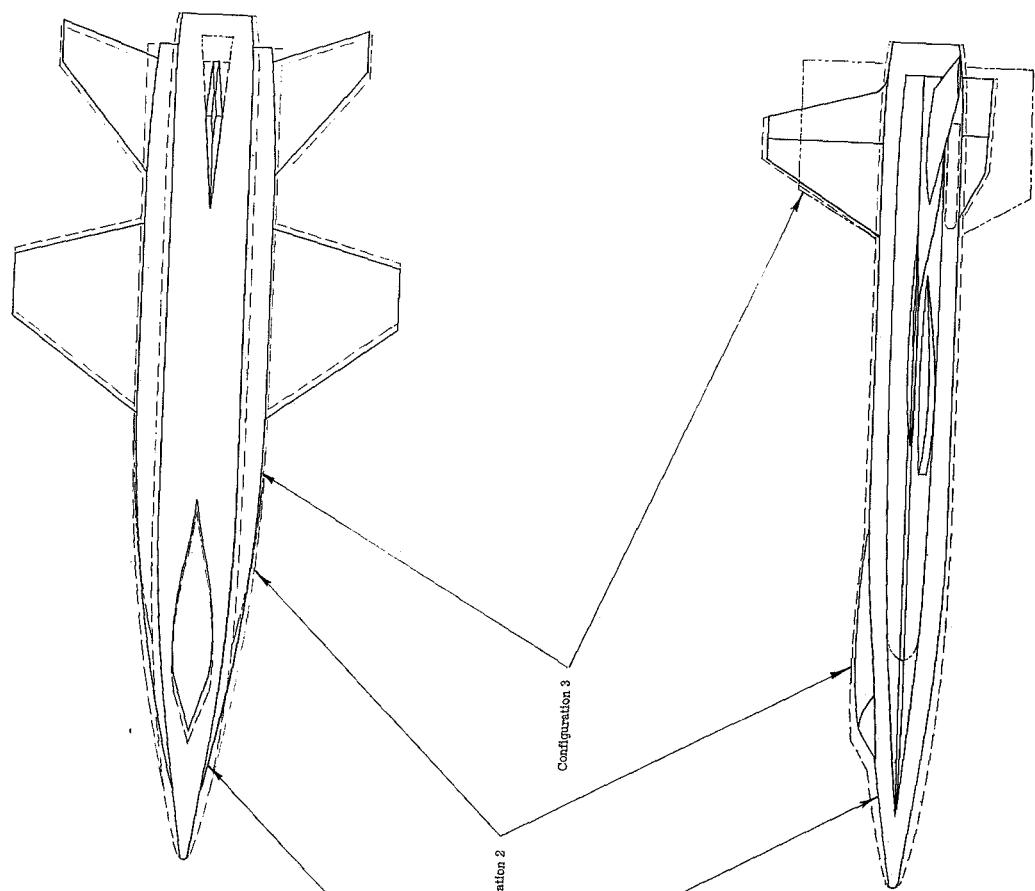


Figure 2.- Comparison of three configurations.

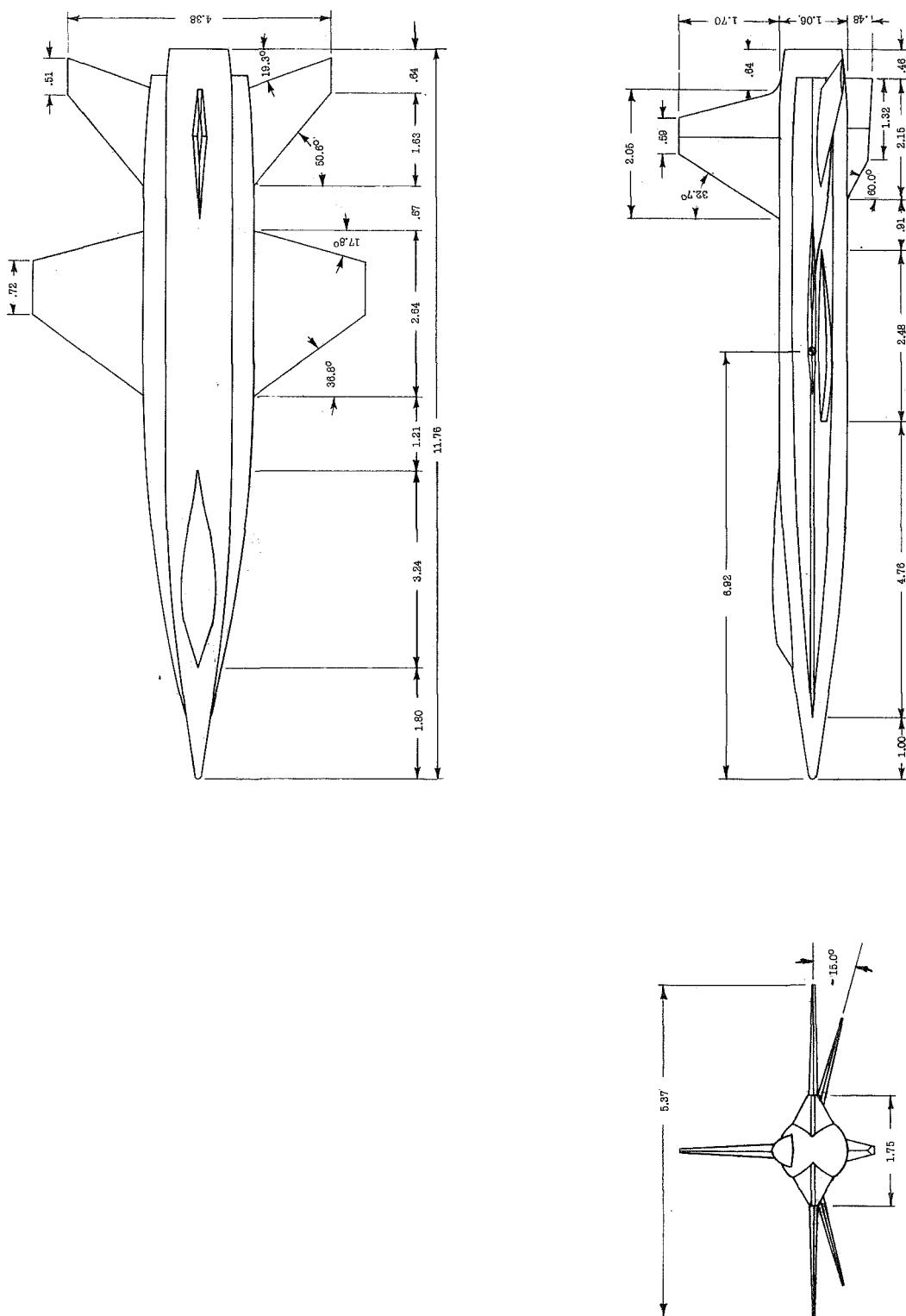


Figure 3.- Details of configuration 1. All dimensions are in inches.

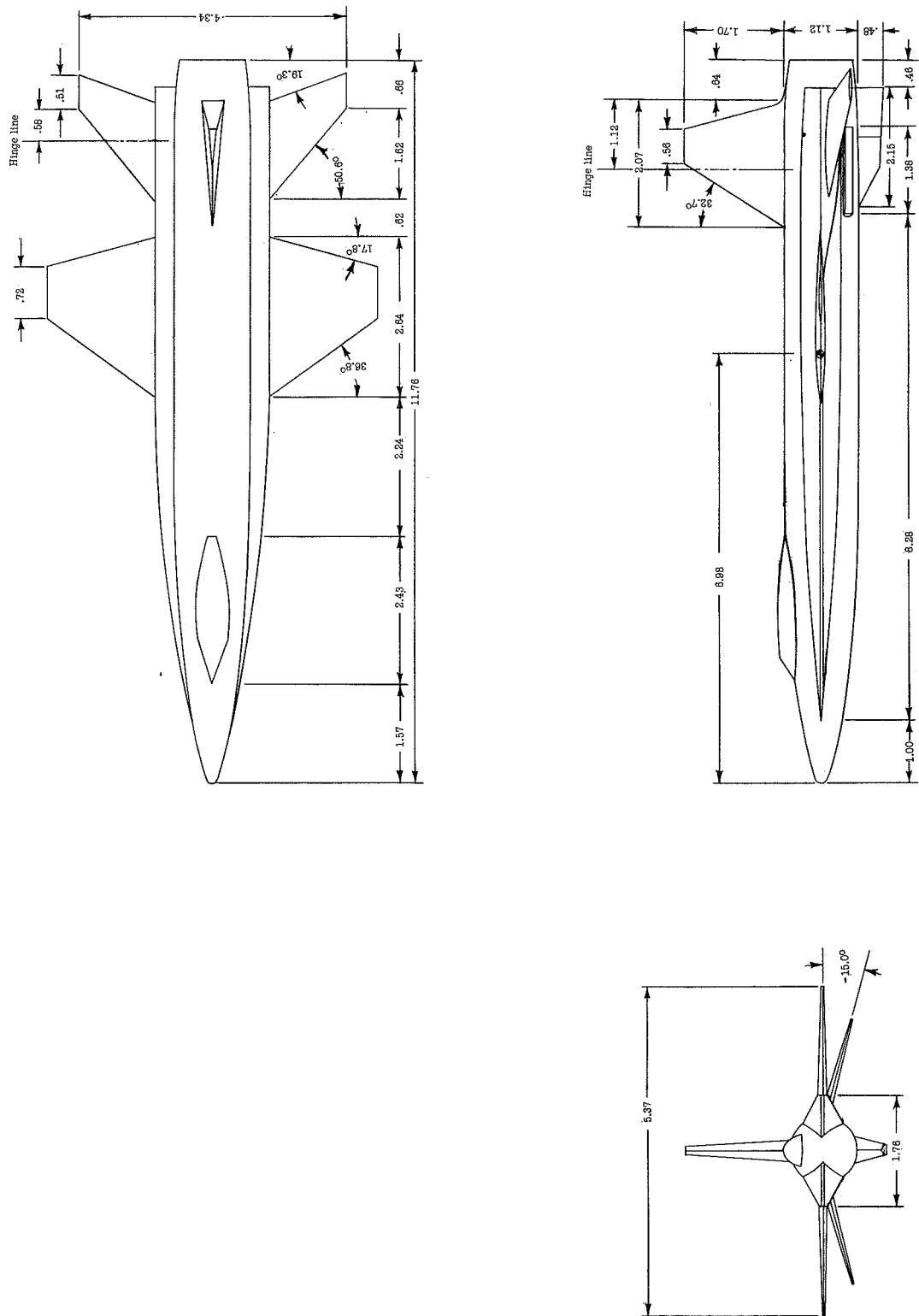


Figure 4.- Details of configuration 2. All dimensions are in inches.

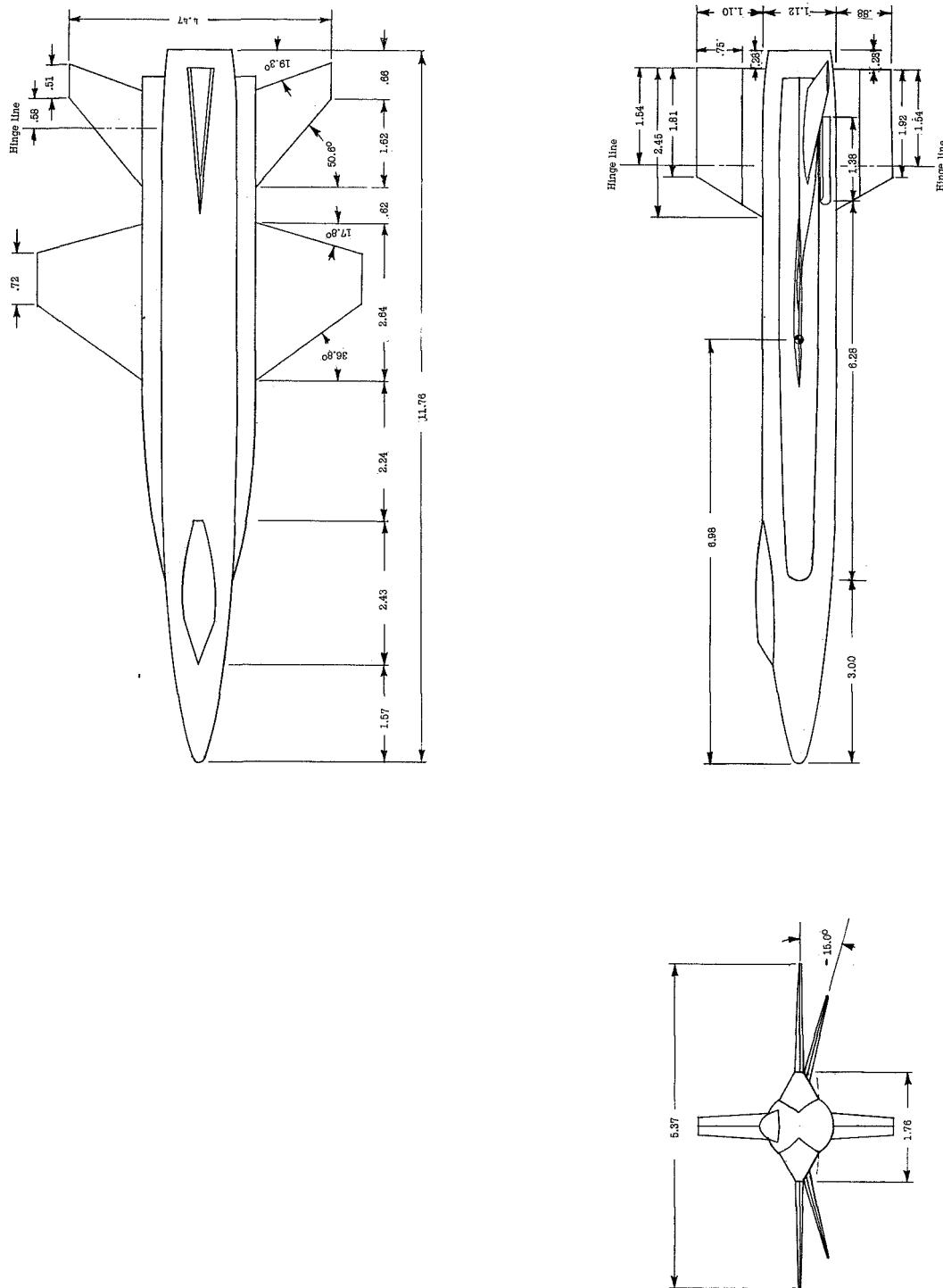


Figure 5.- Details of configuration 3. All dimensions are in inches.

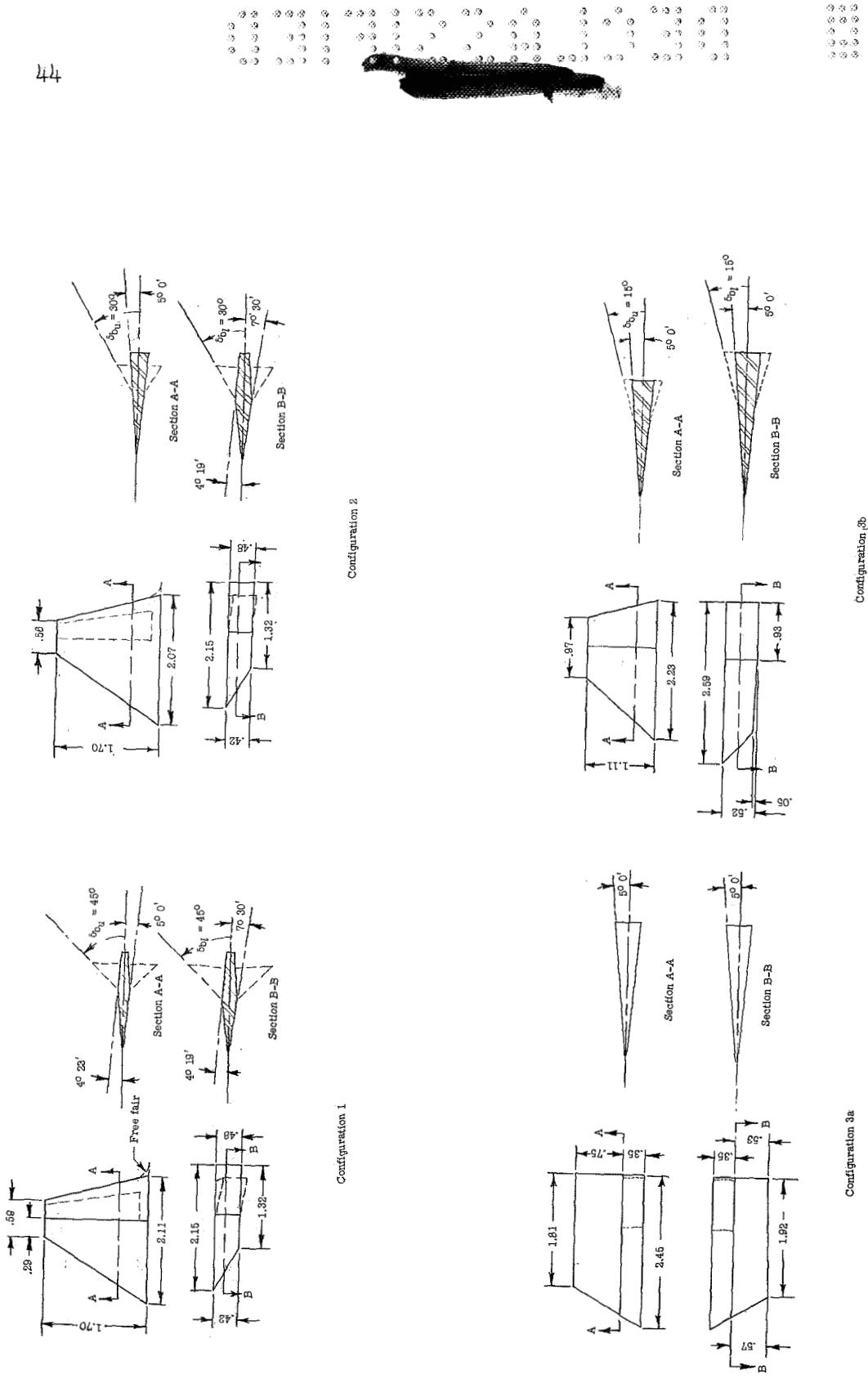


Figure 6.- Details of upper and lower vertical tails used for three configurations.
All dimensions are in inches.



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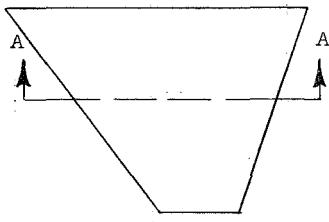


TABLE A

Wing sections (NACA)

Configuration	Section	L.E.R. (root)	L.E.R. (tip)
1	Modified 66-005	.004	.001
2	Modified 66-005	.014	.008
3	Modified 66-005	.014	.008

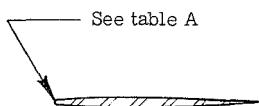
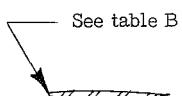
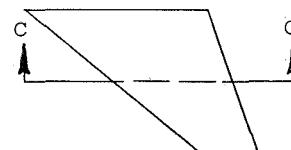
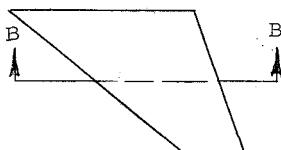


TABLE B

Horizontal tail sections (NACA)

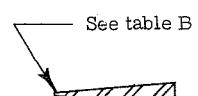
Section A-A
Modified 66-005 wing section.

Configuration	Section	L.E.R. (root)	L.E.R. (tip)
1	Modified 66-005	.003	.001
2a	Modified 66-005	.010	.005
2b	10° wedge	.010	.005
3	Modified 66-005	.010	.005



Section B-B

Modified 66-005 horizontal tail section.
Configuration 2a



Section C-C

10° wedge horizontal tail section.
Configuration 2b

Figure 7.- Wing and horizontal-tail sections.

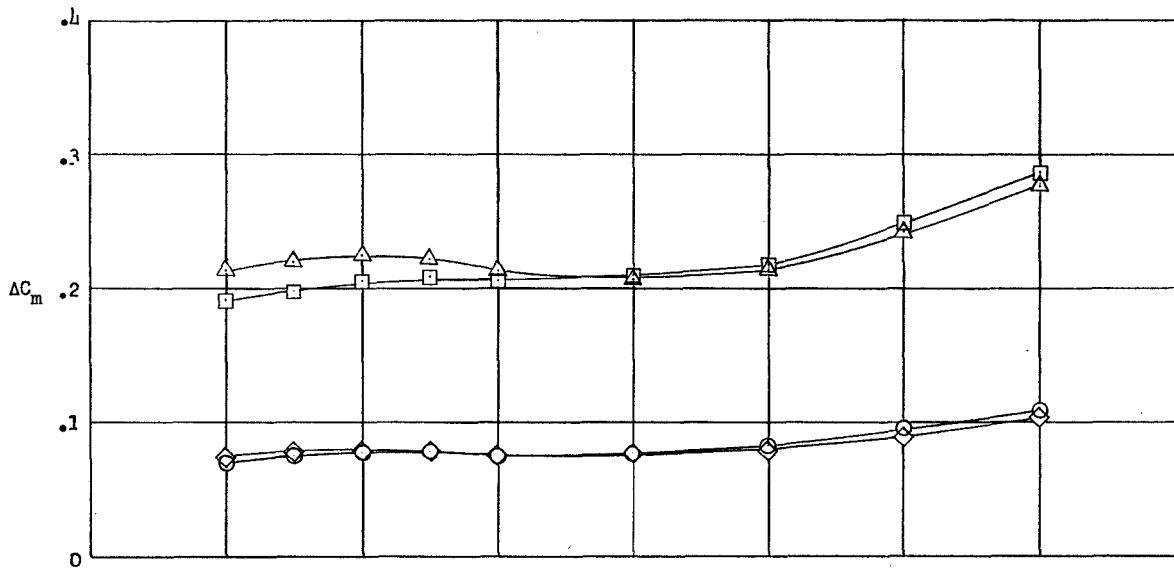
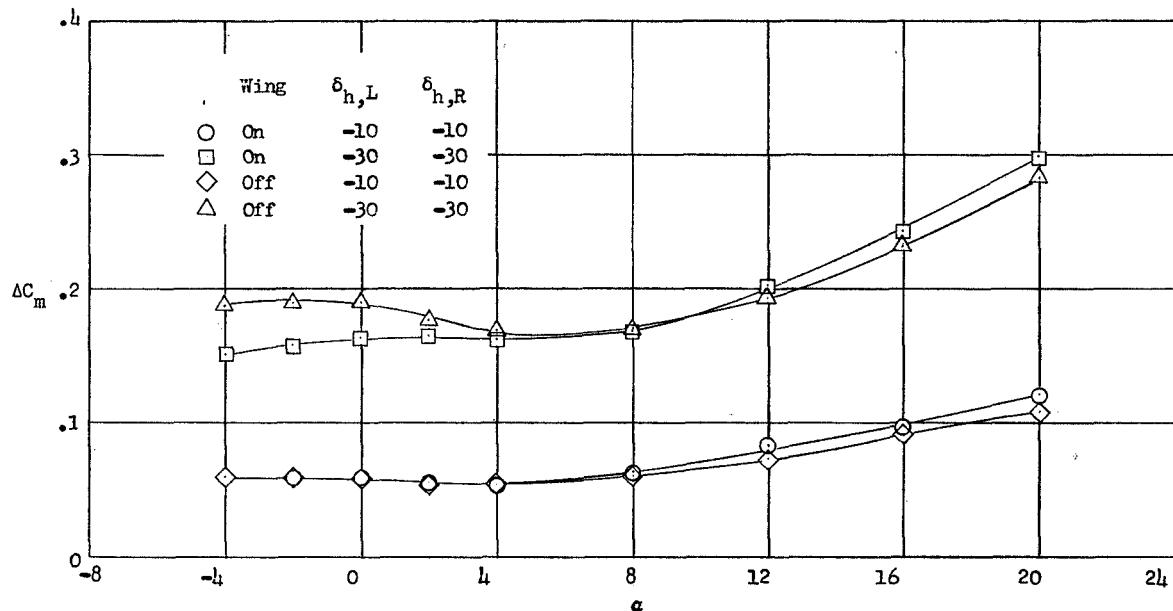
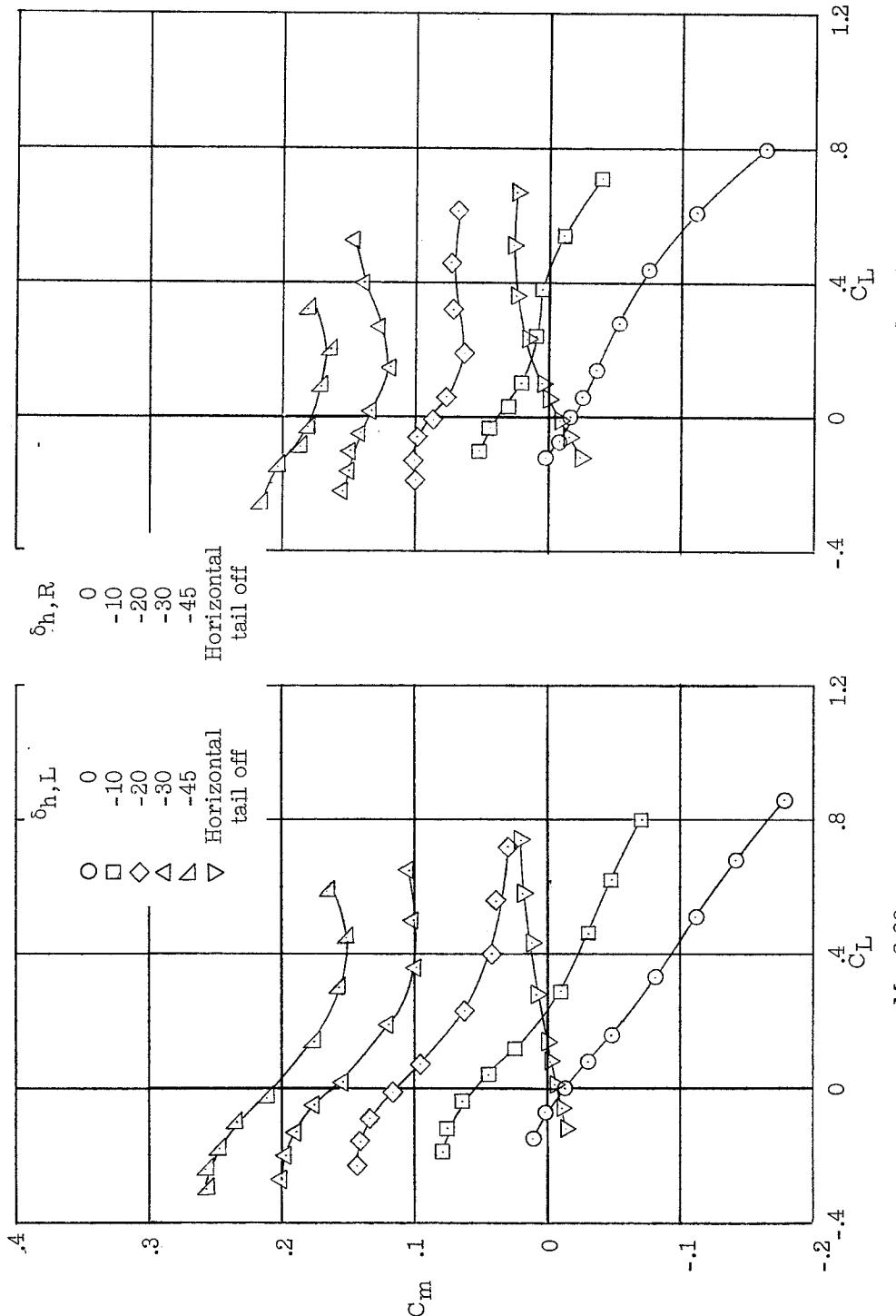
(a) $M = 2.98$.(b) $M = 4.01$.

Figure 8.- Effect of the wing on the contribution to the pitching-moment coefficient of configuration 2. Horizontal tail 2a; $\delta_{b,u} = 20$; $\delta_{b,l} = 20$; $\delta_{v,u} = 0$; $\delta_{v,l} = 0$; $\beta = 0$.

(a) $\delta_{b,u} = 5; \delta_{b,l} = 7.5$.

$M = 4.01.$
 $M = 2.98.$

Figure 9.- Effect of horizontal-tail deflection on the pitching-moment characteristics of configuration 2. Horizontal tail 2a; $\delta_{v,u} = 0; \delta_{v,l} = 0; \beta = 0$.

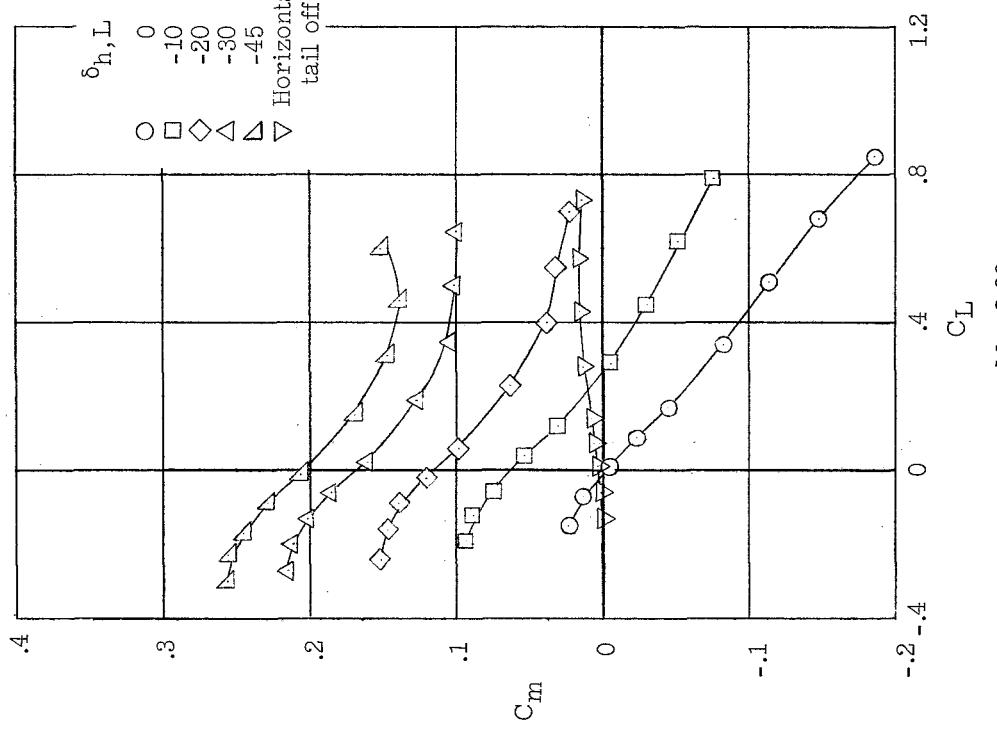
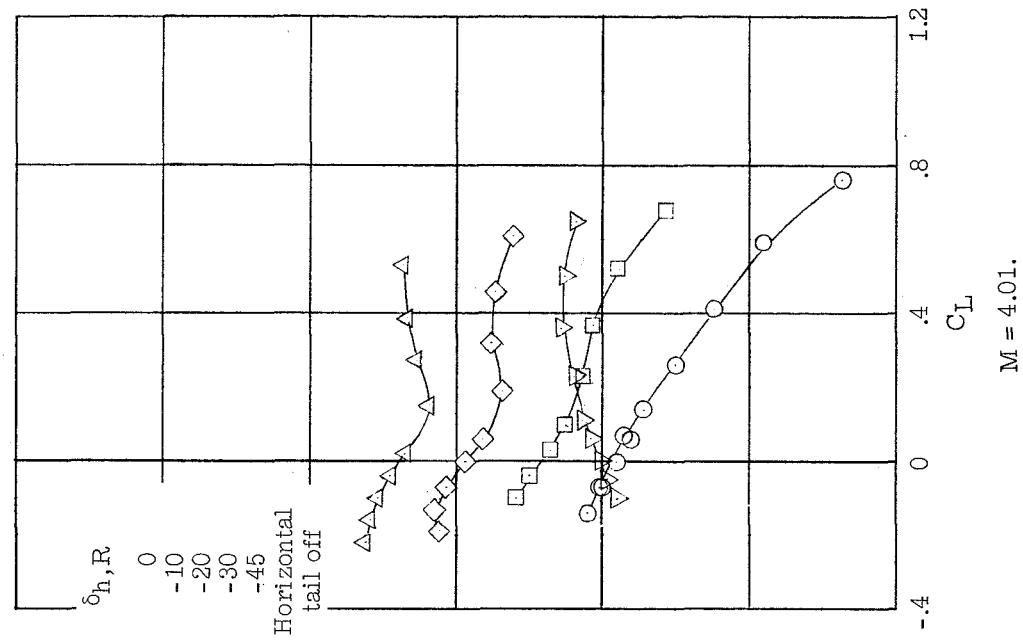
 $M = 2.98.$ (b) $\delta_{b,u} = 20; \delta_{b,l} = 20.$  $M = 4.01.$

Figure 9.- Concluded.

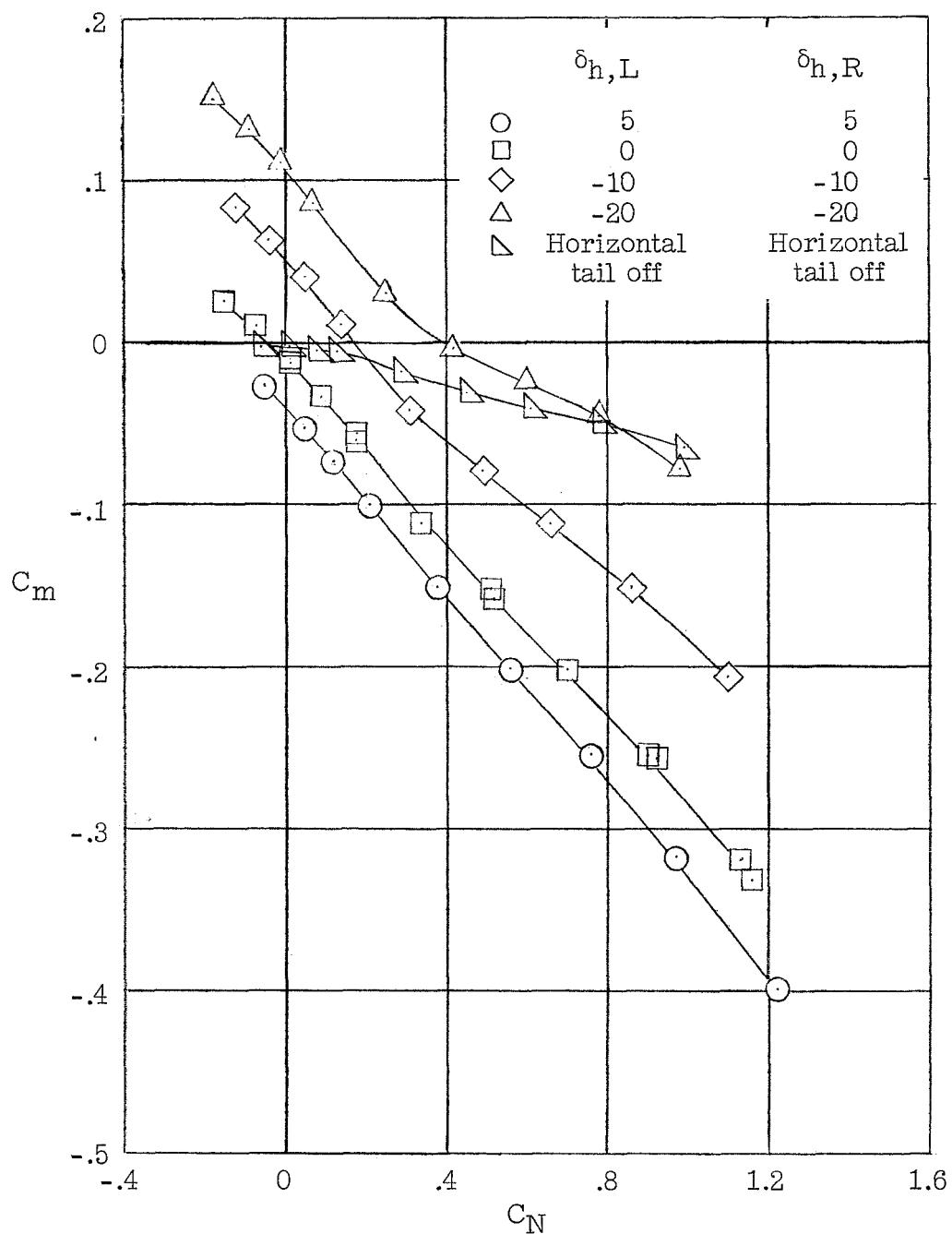


Figure 10.- Effect of horizontal-tail deflection on the pitching-moment characteristics of configuration 3. Vertical tail 3a; $\delta_{b,u} = 5$; $\delta_{b,l} = 5$; $\delta_{v,u} = 0$; $\delta_{v,l} = 0$; $\beta = 0$; $M = 2.98$.

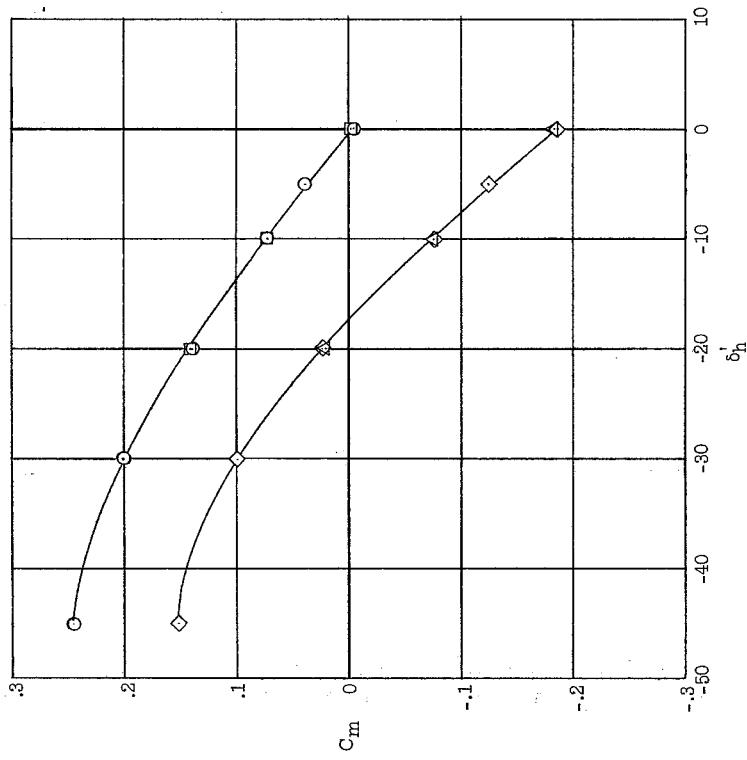
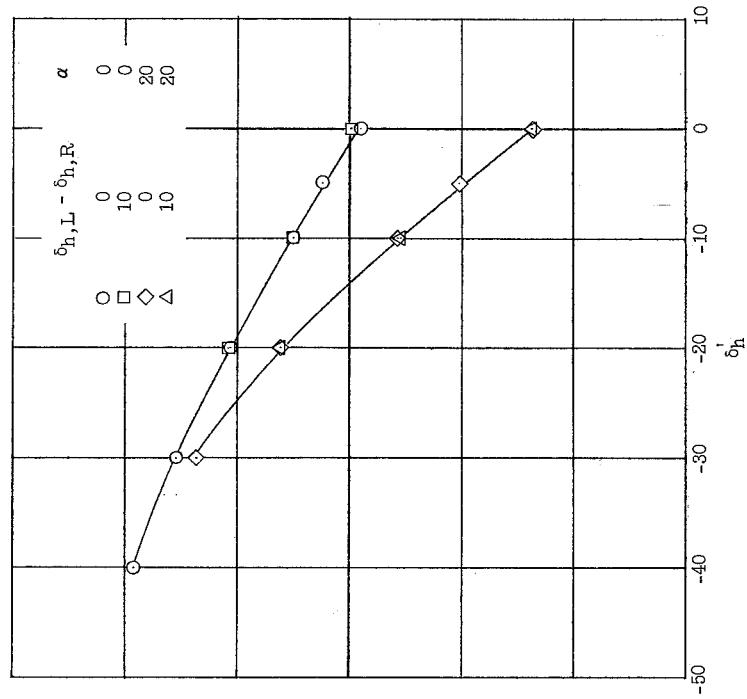
(a) $M = 2.98$.(b) $M = 4.01$.

Figure 11.- Effect of a differential deflection of the horizontal tail on its longitudinal control characteristics. Configuration 2; horizontal tail 2a; $\delta_{b,u} = 20$; $\delta_{b,l} = 20$; $\delta_{v,u} = 0$; $\delta_{v,l} = 0$; $\beta = 0$.

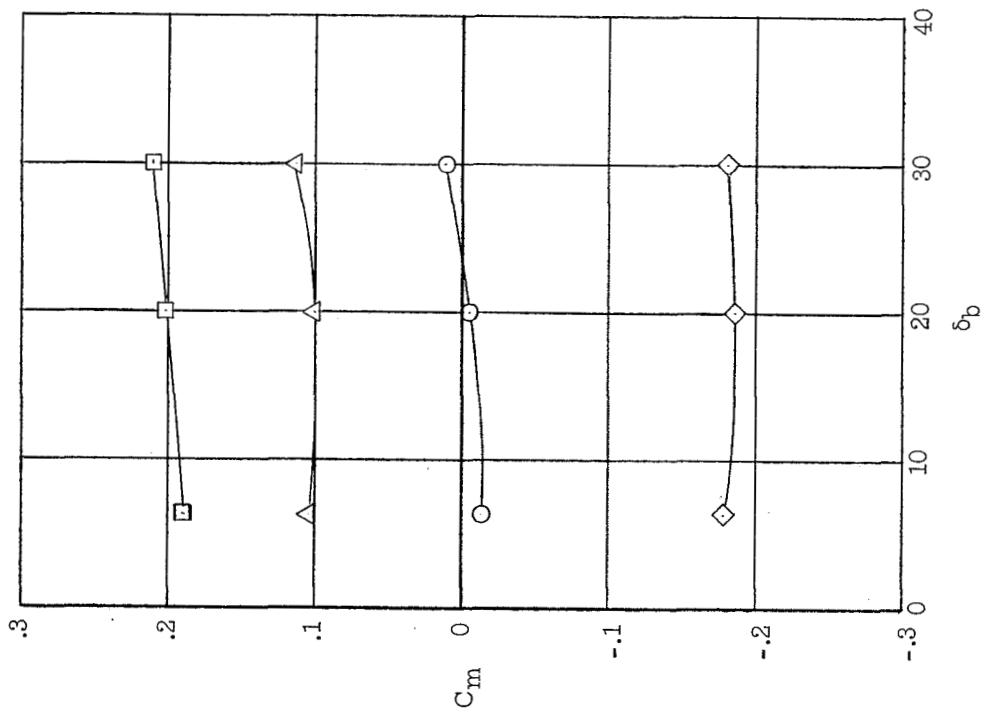
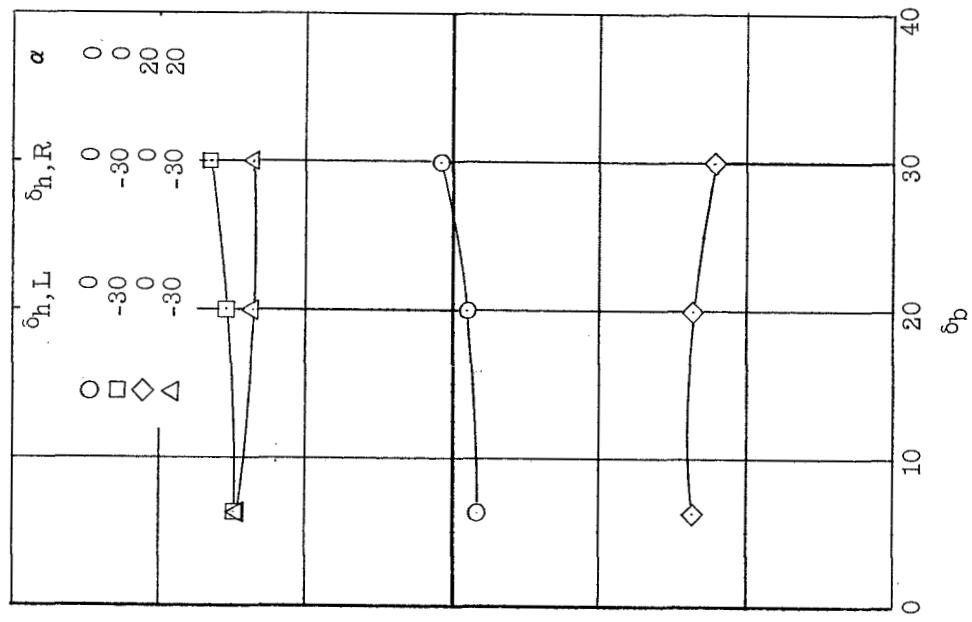
(a) $M = 2.98.$ (b) $M = 4.01.$

Figure 12.- Effect on the pitching-moment characteristics of configuration 2 of opening the dive brakes. Horizontal tail 2a; $\delta_v, u = 0$; $\delta_v, l = 0$; $\beta = 0$.

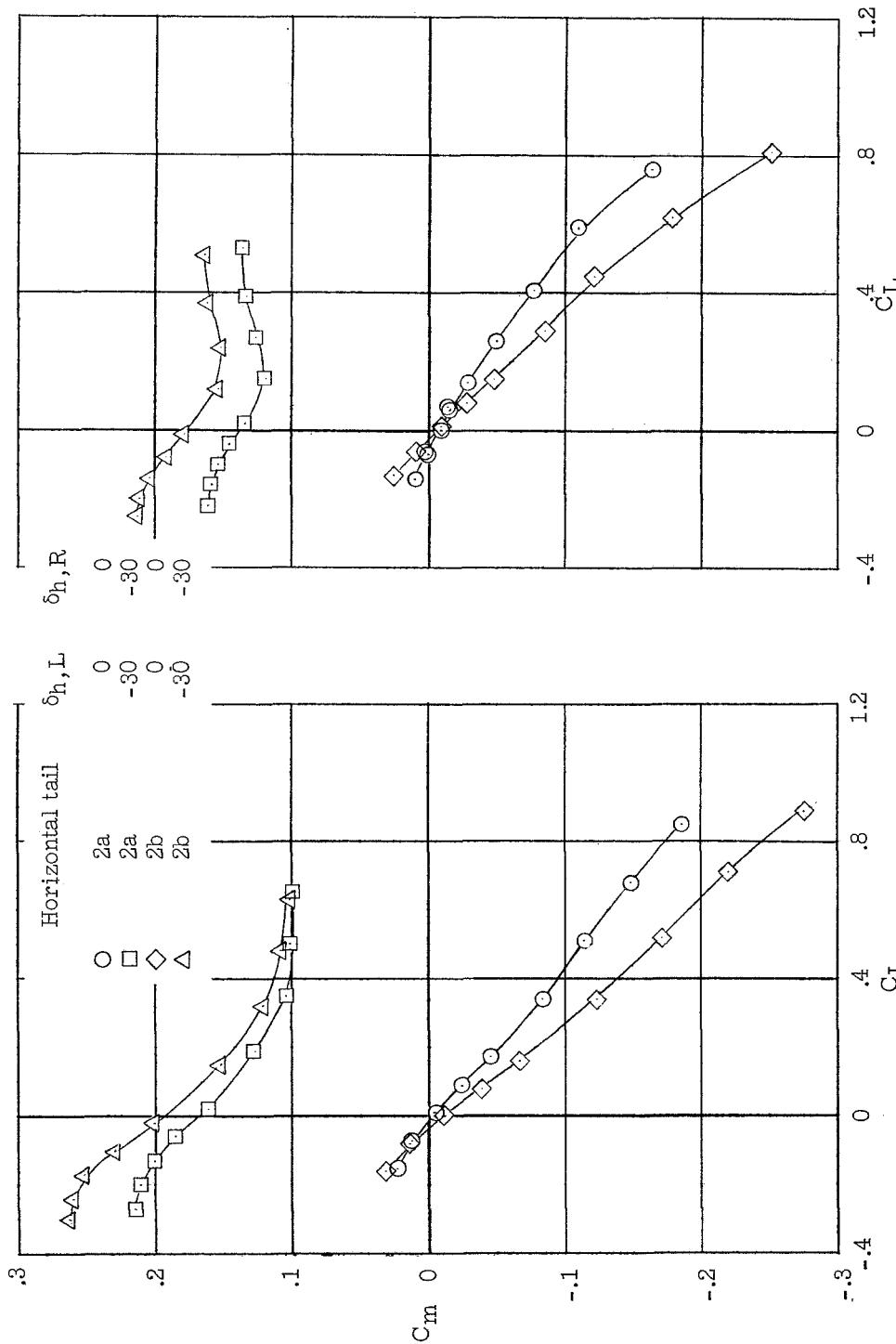
(a) $M = 2.98$.(b) $M = 4.01$.

Figure 13.—Effect of the horizontal-tail section on the pitching-moment characteristics of configuration 2. $\delta_{b,u} = 20$; $\delta_{b,l} = 20$; $\delta_{v,u} = 0$; $\delta_{v,l} = 0$; $\beta = 0$.

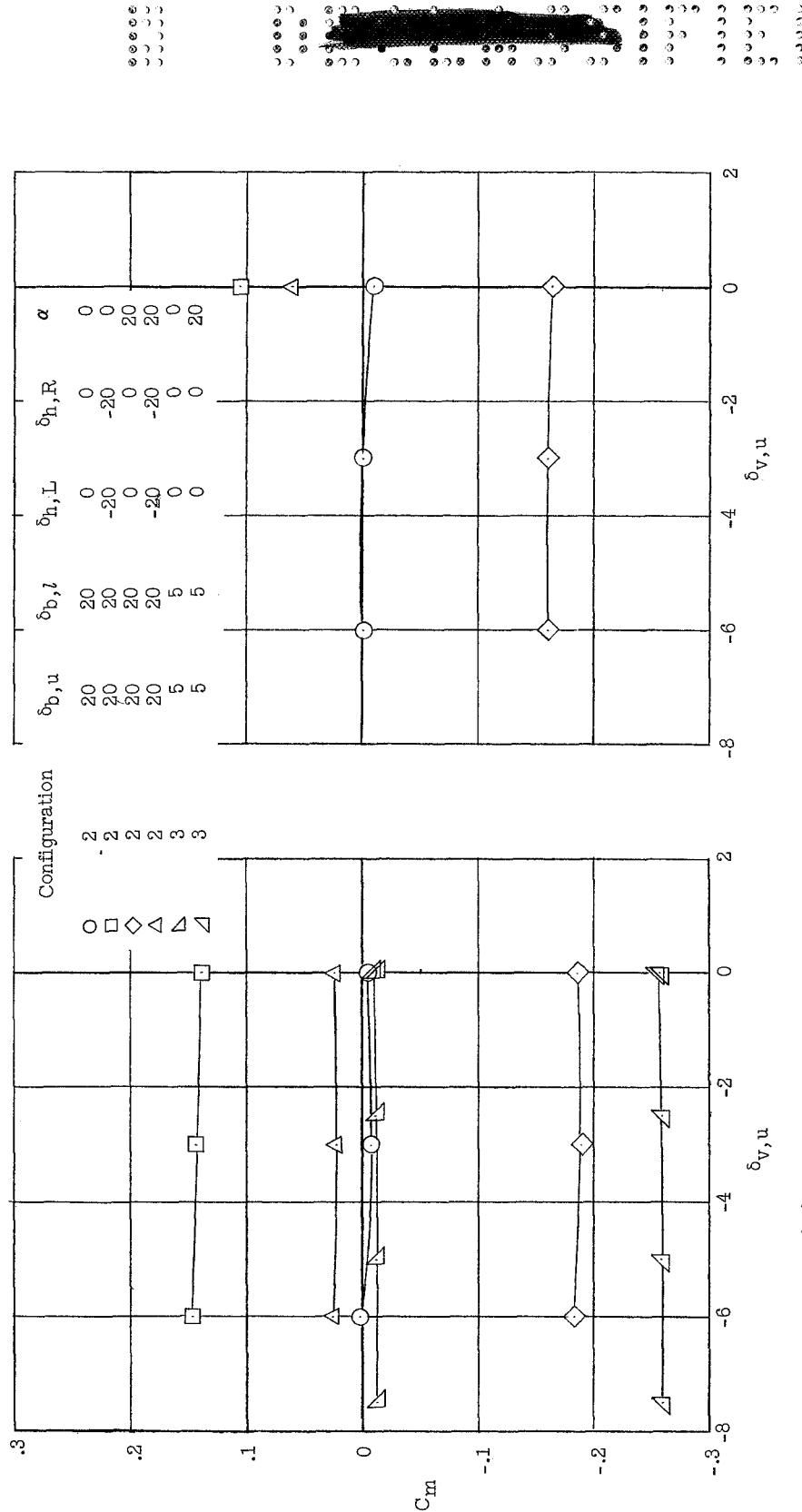


Figure 14.- Variation in the pitching-moment coefficient due to deflecting the upper vertical tail. Configuration 2 with horizontal tail 2a; configuration 3 with vertical tail 3a;
 $\delta_{v,l} = 0$; $\beta = 0$.

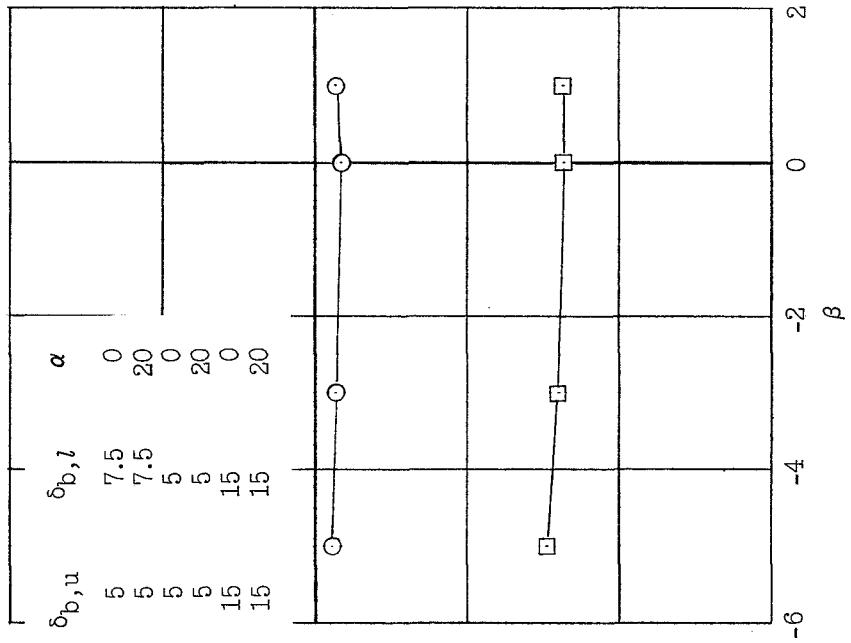
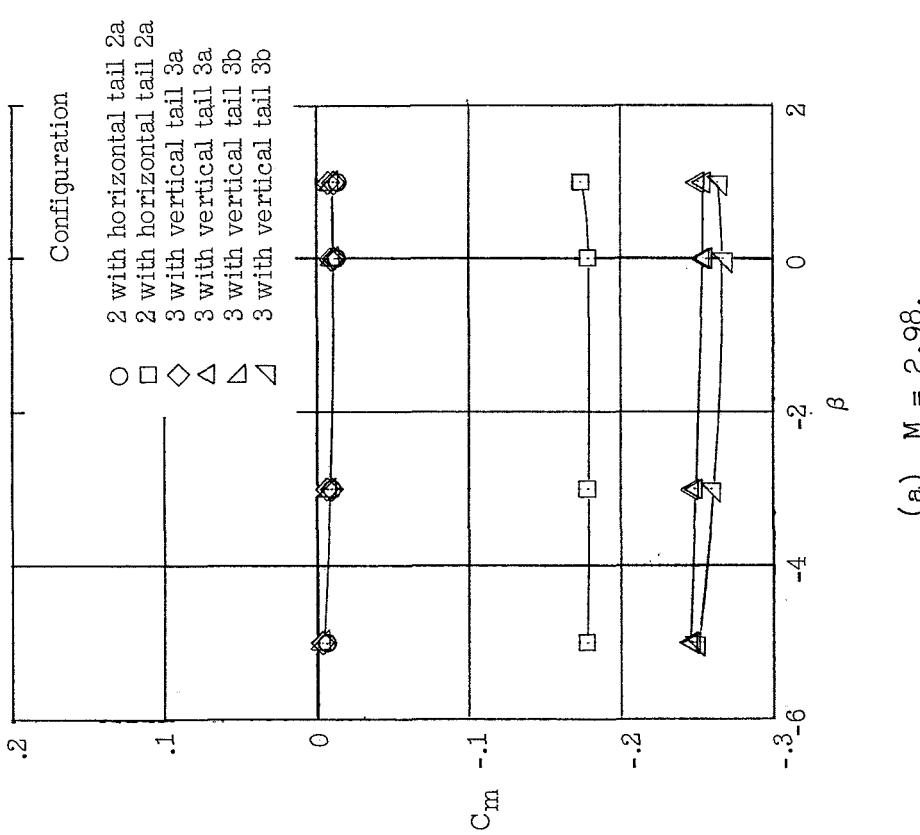


Figure 15.- Variation in pitching-moment coefficient due to sideslip. $\delta_{h,L} = 0$; $\delta_{h,R} = 0$; $\delta_{v,u} = 0$; $\delta_{v,l} = 0$.

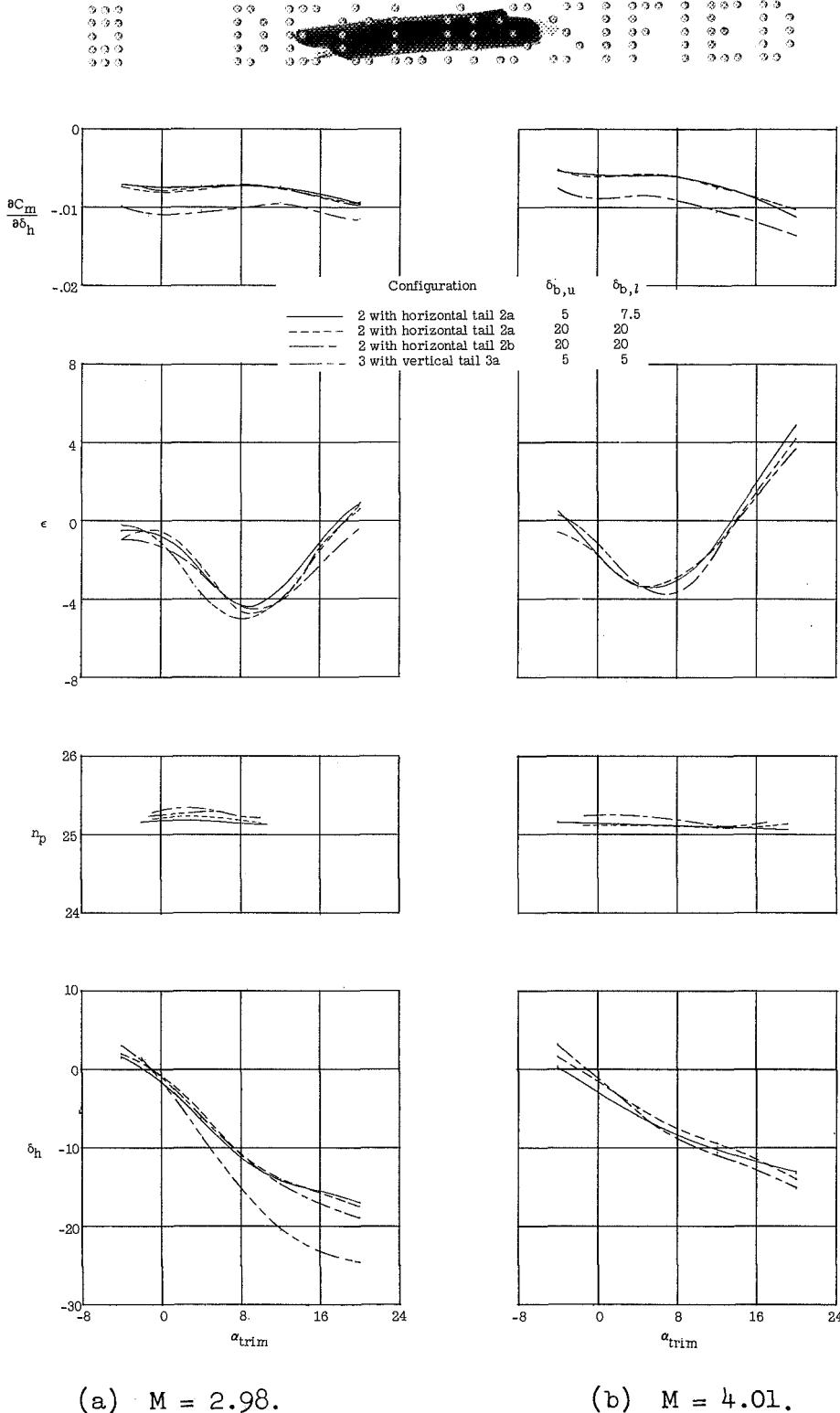


Figure 16.- Variation of several longitudinal parameters with trim angle of attack. $\delta_{v,u} = 0; \delta_{v,l} = 0; \beta = 0.$

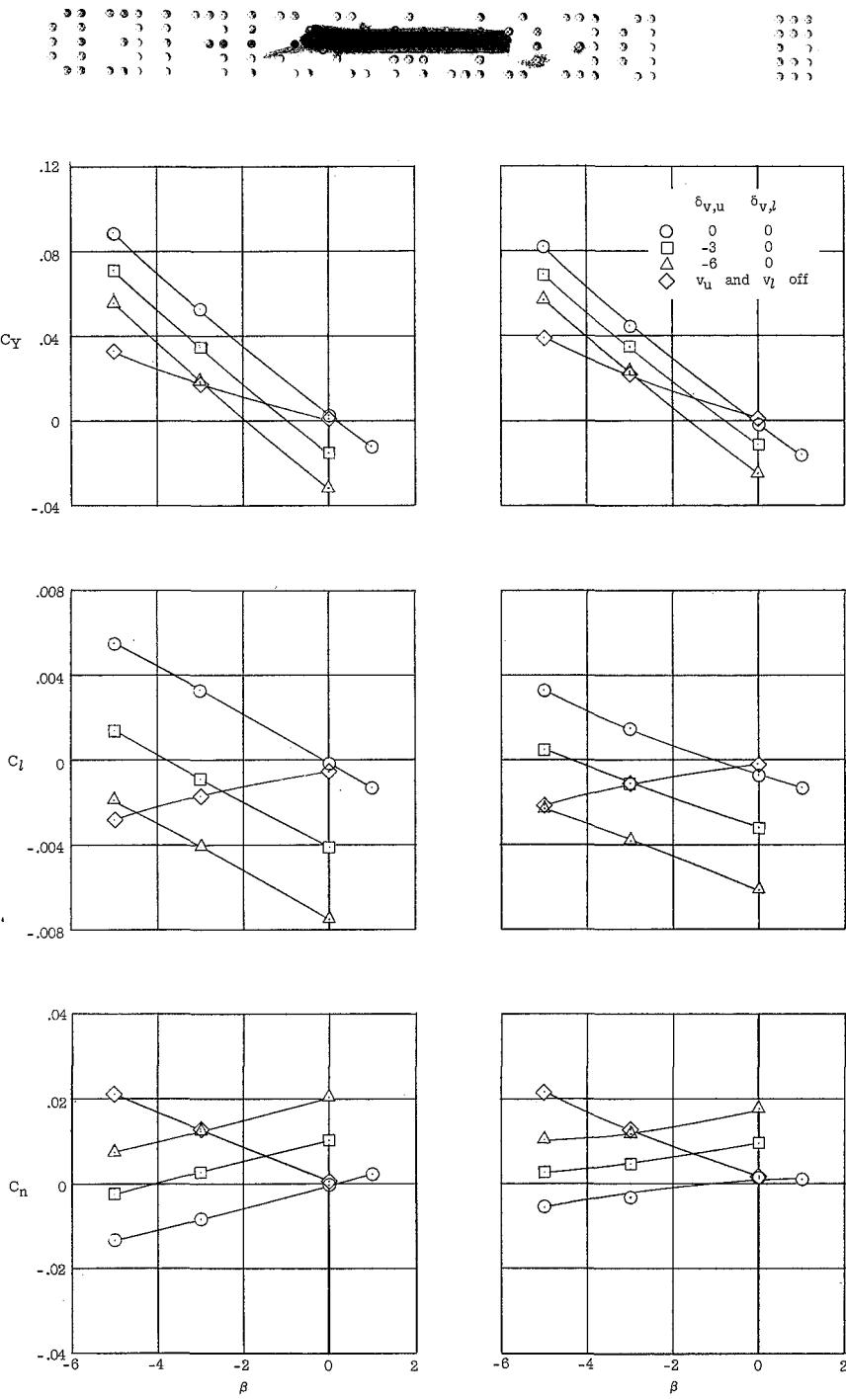
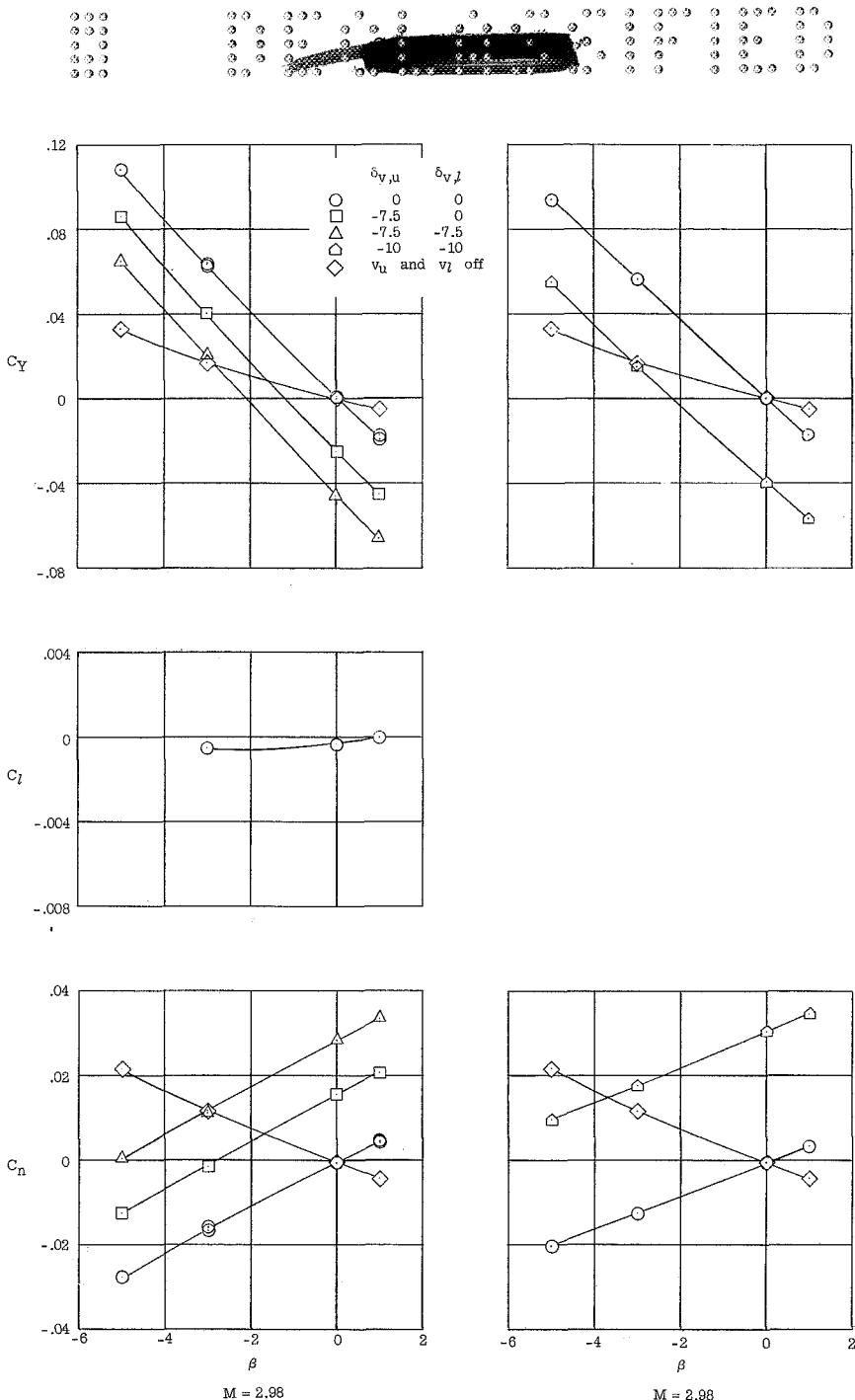


Figure 17.- Vertical-tail deflection effects on the lateral and directional characteristics of configuration 2. Horizontal tail 2a;
 $\delta_{b,u} = 5$; $\delta_{b,l} = 7.5$; $\delta_{h,L} = 0$; $\delta_{h,R} = 0$; $\alpha = 0$.

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(a) Vertical tail 3a;
 $\delta_{b,u} = 5$; $\delta_{b,l} = 5$.

(b) Vertical tail 3b;
 $\delta_{b,u} = 15$; $\delta_{b,l} = 15$.

Figure 18.- Vertical-tail deflection effects on the lateral and directional characteristics of configuration 3. $\delta_{h,L} = 0$; $\delta_{h,R} = 0$;
 $\alpha = 0$.

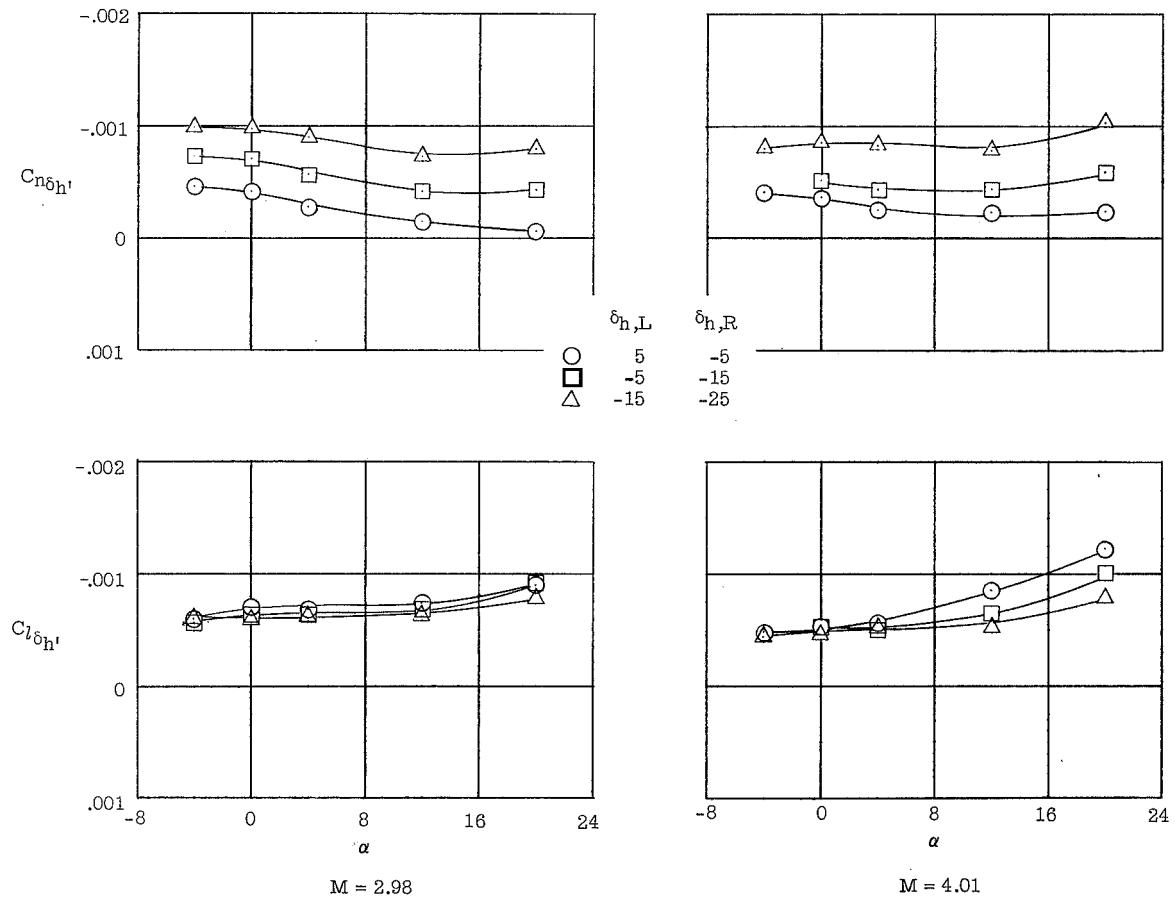


Figure 19.- Variation of the horizontal rolling tail effectiveness of configuration 2 with angle of attack. Horizontal tail 2a; $\delta_{b,u} = 0$; $\delta_{b,l} = 0$; $\delta_{v,u} = 0$; $\delta_{v,l} = 0$; $\beta = 0$.



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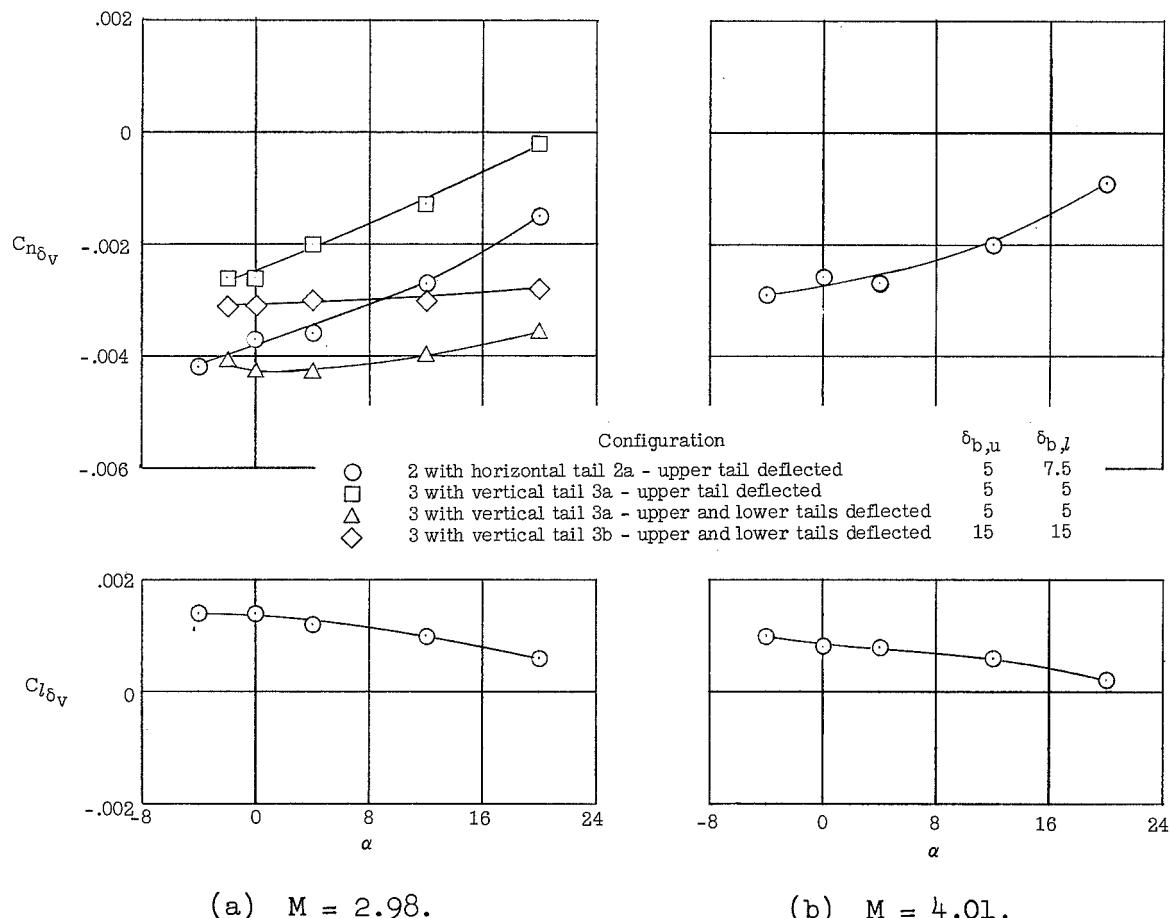


Figure 20.- Effect of angle of attack on the lateral and directional control characteristics of the vertical tails. $\delta_{h,L} = 0$; $\delta_{h,R} = 0$; $\beta = 0$.

9.3	9.2	9.1	9.0	8.9	8.8	8.7	8.6	8.5	8.4	8.3	8.2	8.1	8.0	7.9	7.8	7.7	7.6	7.5	7.4	7.3	7.2	7.1	7.0	6.9	6.8	6.7	6.6	6.5	6.4	6.3	6.2	6.1	6.0	5.9	5.8	5.7	5.6	5.5	5.4	5.3	5.2	5.1	5.0	4.9	4.8	4.7	4.6	4.5	4.4	4.3	4.2	4.1	4.0	3.9	3.8	3.7	3.6	3.5	3.4	3.3	3.2	3.1	3.0	2.9	2.8	2.7	2.6	2.5	2.4	2.3	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.0	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.0
9.3	9.2	9.1	9.0	8.9	8.8	8.7	8.6	8.5	8.4	8.3	8.2	8.1	8.0	7.9	7.8	7.7	7.6	7.5	7.4	7.3	7.2	7.1	7.0	6.9	6.8	6.7	6.6	6.5	6.4	6.3	6.2	6.1	6.0	5.9	5.8	5.7	5.6	5.5	5.4	5.3	5.2	5.1	5.0	4.9	4.8	4.7	4.6	4.5	4.4	4.3	4.2	4.1	4.0	3.9	3.8	3.7	3.6	3.5	3.4	3.3	3.2	3.1	3.0	2.9	2.8	2.7	2.6	2.5	2.4	2.3	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.0	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.0
9.3	9.2	9.1	9.0	8.9	8.8	8.7	8.6	8.5	8.4	8.3	8.2	8.1	8.0	7.9	7.8	7.7	7.6	7.5	7.4	7.3	7.2	7.1	7.0	6.9	6.8	6.7	6.6	6.5	6.4	6.3	6.2	6.1	6.0	5.9	5.8	5.7	5.6	5.5	5.4	5.3	5.2	5.1	5.0	4.9	4.8	4.7	4.6	4.5	4.4	4.3	4.2	4.1	4.0	3.9	3.8	3.7	3.6	3.5	3.4	3.3	3.2	3.1	3.0	2.9	2.8	2.7	2.6	2.5	2.4	2.3	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.0	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.0
9.3	9.2	9.1	9.0	8.9	8.8	8.7	8.6	8.5	8.4	8.3	8.2	8.1	8.0	7.9	7.8	7.7	7.6	7.5	7.4	7.3	7.2	7.1	7.0	6.9	6.8	6.7	6.6	6.5	6.4	6.3	6.2	6.1	6.0	5.9	5.8	5.7	5.6	5.5	5.4	5.3	5.2	5.1	5.0	4.9	4.8	4.7	4.6	4.5	4.4	4.3	4.2	4.1	4.0	3.9	3.8	3.7	3.6	3.5	3.4	3.3	3.2	3.1	3.0	2.9	2.8	2.7	2.6	2.5	2.4	2.3	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.0	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.0